NATIONAL AGRICULTURE DEVELOPMENT PROGRAMME (NADP)

DISTRICT AGRICULTURE PLAN

SALEM

CENTRE FOR AGRICULTURAL AND RURAL DEVELOPMENT STUDIES
TAMIL NADU AGRICULTURAL UNIVERSITY
COIMBATORE -641 003

NATIONAL AGRICULTURE DEVELOPMENT PROGRAMME (NADP / RKVY)

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TAMIL NADU AGRICULTURAL UNIVERSITY
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2017

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EXECUTIVE SUMMARY

Salem District is one of the biggest Districts in Tamil Nadu. It is located about 160 kilometres northeast of Coimbatore, 186 kilometres southeast of Bangalore and about 340 kilometres southwest of the state capital, Chennai. The fifth largest municipal corporation in Tamil Nadu, after Chennai, Coimbatore, Madurai, Tiruchirappalli. Salem covers 100 km. Salem is surrounded by hills and the landscape dotted with hillocks. The geographical area of the district is 5205.30 sq. kilometers. Salem is located at 11.669437°N, 78.140865°E, at an average elevation of 278 m (912 ft). The city is surrounded by hills: Nagaramalai on the north, Jarugumalai on the south, Kanjamalai on the west, Godumalai on the east and the Shevaroy Hills on the northeast. Kariyaperumal Hill is in southwestern Salem. The Thirumanimutharu River flows through the city, dividing it in two. The fort area is the oldest part of Salem. It has four revenue divisions *viz.,* Salem, Attur, Mettur and Sankagiri and it is divided into nine taluks *viz.,*Attur, Mettur, Omalur, Sankari, Salem, Yercaud, Gangavalli, Idappadi and Vazhapadi. The district comprises of three Municipalities *viz*., Idappadi, Attur and Mettur and One Corporation i.e., Salem and 385 Village Panchayats with 646 Revenue villages. The district is also having 34 Town panchayat and 20 Panchayat Unions. It has a total population of 34.80 lakhs at a growth rate of 15.37 per cent. The literacy in the district is about 73.23 per cent and the total working population accounts for 50.33 percent to the total population.

Agriculture sector provides the major source of income to the population of the district and the major crops in this district are paddy, cholam, ragi, cotton, groundnut, maize etc. In addition, the other allied sectors like dairy, sheep/ goat, sericulture, inland fishing are the major sectors contributing to the district's economy as well as act as a major source of providing livelihood for improving the income and standard of living of the people.

SWOT of the District

The major strengths are progressive nature of the farming community, farmers, climate and rainfall favorable for cultivation of a wide range of commercial value crops such as spices, plantation crops, flowers, medicinal and aromatic plants, cut flower cultivation etc., high agricultural population, promising allied sectors such as seed industry, Dairy / Sheep and Goat / Poultry, and Sago industry functioning in this district plays a vital role in the economy of the district.

The major weaknesses are more number of resource poor farmers, fragmented holdings, dependence on monsoon rain, low soil productivity, problem soils such as saline

and alkaline soils, over exploitation of ground water in almost 75-80 per cent of the blocks in the district. Majority of the area is under rainfed condition. Low adoption of plant population, non-adoption of optimum seed rate, lack of awareness on latest technologies among the farmers is the other weaknesses.

The Opportunities are, immense scope for increasing area under hybrid vegetables (tomato, bhendi, cabbage), medicinal plants, establishing distillation units in Yercaud to extract oil from Palmarosa, Citronella, Lemon grass, fruit processing units and Jasmine Concentrate extraction units. Infrastructure facilities such as transport, communication, roads, location advantages such as national highway connecting to Chennai and Bangalore for easy transport of agricultural produce to the markets, development of seed industry, production of milk products and selling of packaged mutton and broiler meat, rearing of back yard poultry and Japanese quills are the other opportunities for development .

However, the threats identified are low productivity of crops, higher cost of cultivation, agricultural labour shortage, uncertainty in market price for the produce and finally the gambling nature of agriculture.

Areas / Sectors which need to be addressed

The agriculture and allied sectors such as horticulture, animal husbandry, fisheries, sericulture, agricultural marketing and agricultural engineering are the major sectors to be improved to enhance production and productivity of the crops and other products to improve the net income of the producers. This in turn will contribute for increasing the agricultural growth beyond the 12^{th} plan period.

Ongoing programs in the District

The Department of Agriculture is currently implementing various programs in terms of crops to increase the productivity mainly rice, millets, pulses, oil seeds, cotton etc. The programs includes crop wise interventions such as Integrated Nutrient Management, IPM, demonstration of new technologies (SRI in paddy), promotion and distribution of bio fertilizers, certified seeds etc. In addition, organizing farmers' fields schools and farmers' visits are also included in the ongoing programs. The Department of Horticulture is implementing a number of programs such as Integrated Horticulture Development Programme, Integrated Tribal Development Programme, IAMWARM, National Horticulture Mission and Micro Irrigation in Salem district.

The sericulture Department is implementing some of the programs such as new plantation of mulberry, provision of improved varieties, drip irrigation, provision of rearing appliances and sheds etc., The Agricultural Engineering Department is implementing

projects on Soil conservation measures like contour Stone wall, check dams etc., in Tribal Hilly regions, Rainwater Harvesting structures (Percolation Ponds, Check dams, Ghanis, Farm Ponds etc.,), Creation of Water Harvesting Structures, distribution of farm machineries such as Tractors, Power Tillers and implements like rotavator, Micro Irrigation etc., to improve the welfare of the farmers.

District Plan at a Glance

The total budget requirements of proposed plan for agricultural and allied sectors under NADP are given below. The total budget requirements for implementing various programs for different sectors in the next five years are ₹. 109027.2 lakhs.

Budget Abstract for Salem District

(₹. In lakhs)

Sl. No	Sectors	2017-18	2018-19	2019-20	2020-21	2021-22	Total
1	Agriculture	5973.53	5105.31	3355.43	2666.89	2770.72	19871.76
2	Agricultural Research (TNAU)	112.00	233.00	186.00	37.00	210.00	778.00
3	Horticulture	3932.37	4156.79	4473.35	4764.27	4920.67	22247.44
4	Agricultural Engineering	2198.05	2141.64	1946.16	1997.95	2215.34	10499.14
5	Agricultural Marketing	1216.11	1630.76	2189.85	2790.05	2797.25	10624.00
6	Seed Certification & Organic Certification	23.36	0.00	13.36	0.00	0.00	36.72
7	Animal Husbandry	986.25	1149.25	1089.25	859.25	839.25	4923.25
8	Animal Science Research (TANVAS)	0.00	0.00	0.00	0.00	0.00	0.00
9	Dairy Development	2197.45	14853.45	6465.45	2612.45	2319.45	28448.25
10	Fisheries	198.00	198.00	184.00	185.00	176.00	941.00
11	Fisheries Research (TNFU)	0.26	90.56	50.26	0.26	300.26	441.60
12	Public Works Department (WRO)	4604.60	3715.00	763.00	1441.00	643.00	11166.60
13	Civil Supplies & Co-Operation	489.60	403.84	343.25	331.25	194.10	1762.04
	Total	**21931.58**	**33677.6**	**21059.36**	**17685.37**	**17386.04**	**111739.8**

The total budget requirement for the implementation of various interventions by different departments is **Rs. 111739.8 lakhs**.

Outcomes as a Result of Implementation of the Plan

Implementation of proposed schemes / projects in Salem district in different sectors will definitely address the current issues, resolve the problems and fulfill the gaps identified in each sectors. In turn it will reflect on increasing employment, better products, increasing farmers' net income and finally it will improve the standard of living of the farmers and other stakeholders involved in various activities.

CHAPTER I

INTRODUCTION

Rashtriya Krishi Vikas Yojana (RKVY) vis-à-vis National Agricultural Development Program (NADP) was initiated in 2007 as an umbrella scheme for ensuring holistic development of agriculture and allied sectors by allowing states to choose their own agriculture and allied sector development activities. The scheme has come a long way since its inception and has been implemented across two plan periods i.e. during 11th and 12th plan periods. Based on feedback received from States, experiences garnered and inputs provided by various stakeholders, schemes eligible for funding under RKVY have undergone modifications to enhance efficiency, efficacy and inclusiveness of the program.

The overall objectives of RKVY (NADP) are as follows:

Objectives of RKVY

a. To strengthen the farmers' efforts through creation of required pre and post-harvest agri-infrastructure that increases access to quality inputs, storage, market facilities etc. and enables farmers to make informed choices.

b. To provide autonomy, flexibility to States to plan and execute schemes as per local/ farmers' needs.

c. To promote value chain addition linked production models that will help farmers increase their income as well as encourage production/productivity

d. To mitigate risk of farmers with focus on additional income generation activities - like integrated farming, mushroom cultivation, bee keeping, aromatic plant cultivation, floriculture etc.

e. To attend national priorities through several sub-schemes.

f. To empower youth through skill development, innovation and agri-entrepreneurship based agribusiness models that attract them to agriculture.

District and State Agriculture Plans

As per the recent guidelines issued by the Government of India under Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RAFTAAR), the new projects proposed and are to be implemented under NADP/RKVY

must be in consonant with District Agricultural Plans (DAP), State Agriculture Plans (SAP) and State Agriculture Infrastructure Development Program (SAIDP) prepared by the individual States. Thus, such action-oriented plan documents will remain as a cornerstone of planning and implementation of the NADP/RKVY and other schemes.

The overall guidelines suggested by the Government of India to be followed for preparation of District Agriculture Plans (DAP) and State Agricultural under NADP/RKVY are as follows:

- The several states have already prepared Comprehensive District and State Agriculture plans for 12th Plan period. These plans have to be revised and updated appropriately for implementing RKVY-RAFTAAR during 14th Finance Commission keeping in view modification proposed for the plan period and emerging needs of the State.

- The District Agriculture Plan (DAP) shall not be however the usual aggregation of existing schemes but would aim at moving towards projecting the requirements for development of Agriculture and allied sectors of the district and for the State a whole.

- These plans would also present the vision for Agriculture and allied sectors within the overall development perspective of the district and further State as a whole.

- The District Agriculture Plans and the State level plan would also present their financial requirements in addition to sources of financing the agriculture development plans in a comprehensive way.

- The District Agriculture Plan will include animal husbandry and fishery development, minor irrigation projects, rural development works, agricultural marketing schemes and etc. keeping in view the natural resources and technological possibilities in each district.

- District level potential linked credit plans (PLP) already prepared by the National Bank for Agriculture and Rural Development (NABARD) and Strategic Research and Extension Plans (SREP) developed under the Agricultural Technology Management Agency (ATMA) etc. may be referred for revision of DAPs.

- It should also be ensured that the strategies for convergences with other programs as well as the role assigned to the Panchayati Raj Institutions (PRIs) are appropriately incorporated in DAPs.

Therefore, each State will also have a comprehensive State Agricultural Plan (SAP) for the remaining period of the Fourteenth Finance Commission by integrating the District Plans. SAPs will invariably have to indicate resources that can flow from the State to the districts.

The Process

Revision and updating of SAPs could be a two-way process. Firstly, State Nodal Department (or Agriculture Department) could get DAPs revised in the first instance to ensure that priorities of the State are properly covered in the district plans. States should, at this stage of scrutiny, ensure that requirements of districts and priorities of the State are appropriately captured and aligned in DAPs. Alternately, State Nodal Agency could communicate to the districts in the first instance, the State's priorities that ought to be reflected in the respective district plans and the districts may incorporate these in their updated district plans. Preparation/revision of the DAPs need to be an elaborate, exhaustive and iterative process and care has to be taken by the State Nodal department and District Agriculture Department in ensuring that these plans cover the entire gamut of agriculture and allied sectors.

Revision and Updation of DAP and SAP in Tamil Nadu

Tamil Nadu State continued to receive Central Assistance under NADP/RKVY. The Government of Tamil Nadu also prepared District and State Agriculture Plans covering 11th and 12th Plan periods. Tamil Nadu State has 32 districts including Chennai. The District Agriculture Plan were prepared for 31 districts excluding Chennai during 12th plan period. Thus, the current exercise is the continuation of the 12th plan period: which also covered two years of the 14th Finance Commission period (2015-16 and 2016-17) and also keeping in view of the changing scenario in the development and emerging needs of the State and to be eligible for fresh grants from Government of India. These plan were further revised and updated appropriately for implementing RKVY during the periods from 2017-18 to 2021-22.

Methodology followed

The revision of the District Agricultural Plan of Salem district, was done by gathering the secondary data about district and block with respect to rainfall, land use pattern, demography, livestock, machinery, infrastructure so far created etc. In addition, the constraints in production and marketing of agricultural and livestock produce, crop/animal production and gaps between expected and actual yield and the reasons for

such gaps were also discussed among the various stakeholders and incorporated in this plan document. Besides, in consultation with the line department officials and based on the data received from respective districts, a detailed year-wise action plan i.e. from 2017-18 to 2021-22 with physical and financial implications were presented.

CHAPTER II

PROFILE OF THE BLOCKS AND DISTRICT

In this chapter, the following details are discussed elaborately at block and district levels

2.1 Salem at a Glance

Salem is one of the biggest districts of Tamil Nadu. This district is surrounded by Dharmapuri district at its north, Erode and Namakkal districts in the south, Villupuram district in the east and Western Ghats in the west. This district is surrounded by numerous hills. Shervaroy hills and Kalvarayan hills are bigger in size and they adorn the district with natural beauty and forest wealth. As a district, Salem has its significance in various aspects; it is known for mango cultivation, silver ornaments, textile, sago industries and steel production.

2.2 Area, Location and Geographical Features

Salem is located about 160 kilometers northeast of Coimbatore, 186 kilometers southeast of Bangalore and about 340 kilometers southwest of the state capital, Chennai. The fifth largest municipal corporation in Tamil Nadu, after Chennai, Coimbatore, Madurai, Tiruchirapalli and it covers 100 km^2. Salem is surrounded by hills and the landscape dotted with hillocks. The geographical area of the district is 5205.30 sq. kilometers. Salem is located at 11.669437°N 78.140865°E, at an average elevation of 278 m (912 ft). The city is surrounded by hills: Nagaramalai on the north, Jarugumalai on the south, Kanjamalai on the west, Godumalai on the east and the Shervaroy Hills on the northeast. Kariyaperumal Hill is on southwest Salem. The Thirumanimutharu river flows through the city, dividing it in two. The fort area is the oldest part of Salem.

2.3 Administrative Structure of Salem district

Salem is the headquarters of Salem district and the town was constituted as a municipality in 1867 and was upgraded to a special-grade municipality in 1979 and municipal corporation since 1st April 1994. It has four revenue divisions *viz.,* Salem, Attur, Mettur and Sankagiri and it is divided into nine taluks *viz.,* Attur, Mettur, Omalur, Sankari, Salem, Yercaud, Gangavalli, Idappadi and Vazhapadi. The district comprises of three Municipalities *viz*., Idappadi, Attur and Mettur and One Corporation i.e., Salem. It has 385 Village Panchayats with 646 Revenue villages. The district is also having 34 Town panchayats and 20 Panchayat Unions (Table 2.1 &Fig. 1 & 2).

Table 2.1 Taluks, Blocks and Agricultural Divisions in the Salem District

Name of the Taluks (9)	Name of the Blocks (20)	Name of Agricultural Division (20)
Attur	Salem	Salem
Mettur	Veerapandy	Veerapandy
Omalur	Panamarathupatti	Panamarathupatti
Sankari	Ayothiyapattinam	Ayothiyapattinam
Salem	Valapady	Valapady
Yercaud	Yercaud	Yercaud
Gangavalli	P.N.Palayam	P.N.Palayam
Idappadi	Attur	Attur
Vazhapadi	Gangavalli	Gangavalli
	Thalaivasal	Thalaivasal
	Kolathur	Kolathur
	Nangavalli	Nangavalli
	Mecheri	Mecheri
	Omalur	Omalur
	Tharamangalam	Tharamangalam
	Kadayampatti	Kadayampatti
	Sankari	Sankari
	Edappady	Edappady
	Konganapuram	Konganapuram
	Mac. Choultry	Mac. Choultry

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

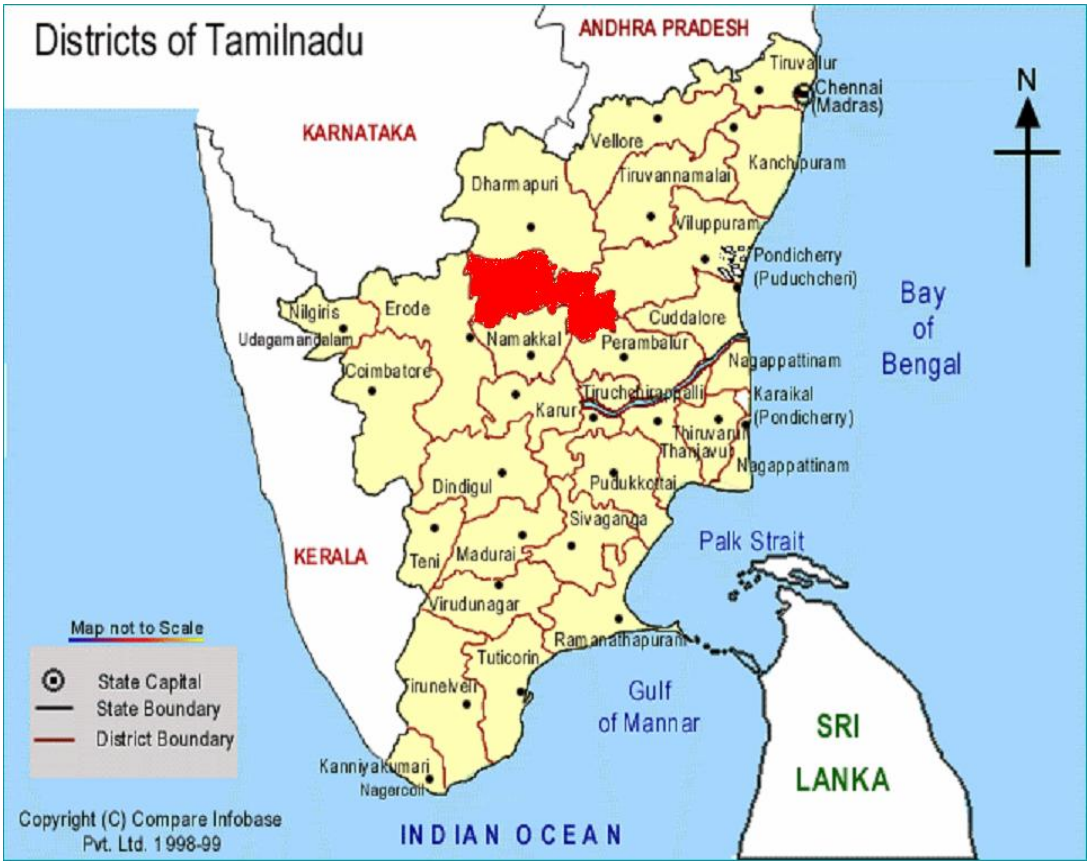

Fig.1 Location Map of Salem

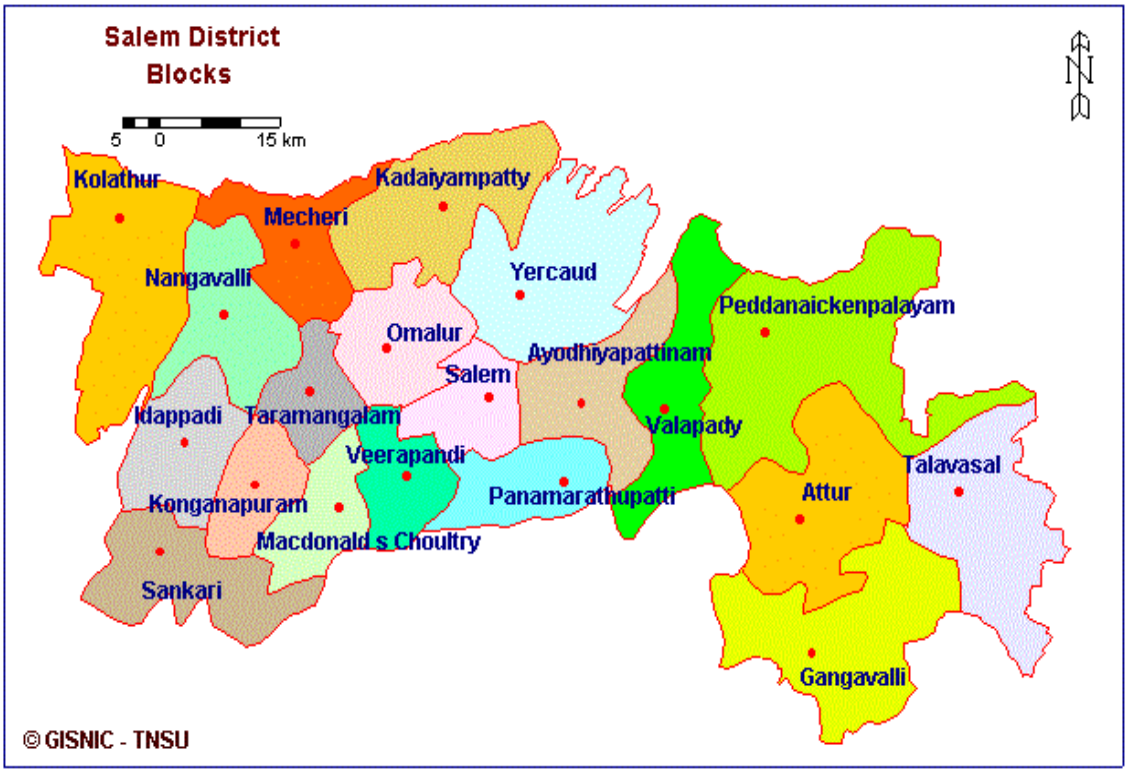

Fig. 2 Location map of blocks in Salem

Salem district is having administrative divisions of 9 taluks, 20 blocks, 376, Panchayats and 631 Revenue villages as detailed below in Tale 2.2.

Table 2.2 Administrative set up of Salem District

S. No	Taluk	Area (sq.km)	No. of Villages	Block	No. of villages
1	Salem	672.42	177	Salem	39
				Veerapandi	53
				Panamarathupatti	34
				Ayothiyapattinam	51
2	Valapady	307.5	39	Valapady	39
3	Attur	1278.85	75	Attur	28
				Pethanaickenpalayam	47
4	Gangavalli	403.06	68	Thalaivasal	41
				Gangavalli	27
5	Sankari	398.88	48	Sankari	34
				Magudanchavadi/M.Choultry	14
6	Edapady	320.3	24	Edapady	14
				Konganapuram	10
7	Mettur	777.15	46	Kolathur	12
				Mecheri	20
				Nangavalli	14
8	Omalur	666.46	87	Omalur	47
				Tharamangalam	18
				Kadayampatti	22
9	Yercaud	382.67	67	Yercaud	67
Total		**5207.29**	**631**		**631**

Source: Technical Report Series (2008), Salem District, Central Ground Water Board, Chennai

2.4 Demographic Profile

2.4.1 Population

Salem district occupies 9th and 4th place among the districts of Tamil Nadu with respect to size and population. Omalur block has the highest population of 197437 numbers of which 100453 are males while 90984 are females as per report released by Census India 2011 and next to which is the Ayothiyapattinam block which constitutes 146368 numbers. The least populous block in the district is Yercaud which have 41869 numbers in the district. The population of other blocks in the district is furnished in the Table 2.3

Table 2.3 Block wise population level in the district (Number) 2011 census

S. No.	Name of the block	Total Male	Total Female	Total Population	Total SC	Total ST
1	Salem	44082	41286	85368	9531	266
2	Veerapandi	66352	61340	127692	14309	99
3	Panamarathupatti	48792	46787	95579	19580	6589
4	Ayothiyapattinam	74140	72228	146368	42396	9279
5	Valapady	40852	39900	80752	19062	4777
6	Yercaud	21070	20799	41869	5492	28118
7	Pethanaickenpalayam	53526	52932	106458	18440	34962
8	Attur	44902	43851	88753	22496	3423
9	Gangavalli	35527	35076	70603	13969	10153
10	Thalaivasal	68593	66433	135026	41523	1080
11	Kolathur	40058	36400	76458	11464	7994
12	Nangavalli	41310	36166	77476	6555	12
13	Mecheri	52313	46482	98795	14605	18
14	Omalur	100453	90984	197437	45924	273
15	Tharamangalam	55562	49056	104618	6467	8
16	Kadayampatti	65586	59892	125478	24550	4854
17	Sankari	43154	40882	84036	18813	11
18	Edappady	43222	39069	82291	7248	61
19	Konganapuram	35848	32031	67879	6129	6
20	Mac. Donald Choultry	36849	33420	70169	5992	351

Source: Census of India (2011), Directorate of Census Operations, Govt. of Tamil Nadu, Chennai

In 2011, Salem had a population of 34,80,008 of which male and female were 17,80,569 and 16,99,439 respectively. The following Table 2.4 describes the population status of Salem district.

Table 2.4 Population status of Salem district

Description	2011 Census (Numbers)
Actual Population	3480008
Male	1780569
Female	1699439
Population Growth	15.37 %
Proportion to Tamil Nadu Population	4.82 %
Sex Ratio (Per 1000)	954
Average Literacy	73.23
Male Literacy	80.70
Female Literacy	65.43

Source: Census of India (2011, Directorate of Census Operations, Govt. of Tamil Nadu, Chennai

2.4.2 Literacy level

The literacy levels among the blocks are furnished in the Table 2.5. Literacy rate of Gangavalli block is 75.50 % lower than state average of 80.09 %. In Gangavalli, Male literacy is around 82.74 % while female literacy rate is 68.60 %.

According to Census 2011, total literates in Salem district was 19,18,369 of which male and female were 11,00,522 and 8,17,847 respectively. It is inferred from the table that Salem block has the highest number of literate (5,49,600 No's) people in the district followed by Omalur block which constitutes 1,38,704 and Kolathur block has 136610 numbers, respectively. Rest of the blocks have moderate literate groups in the district. The lowest number of literate numbers are present in the Yercaud block which holds 22,882 numbers.

Of the total literates, 12,76,801 were literates in the urban region of which male and female were 6,94,572 and 5,82,229 respectively. Literacy rate in rural areas of Salem district was 74.60 per cent as per census data 2011. Gender wise, male and female literacy stood at 80.20 and 65.20 per cent, respectively. The data on literacy rate is presented in the Table 2.6.

Table 2.5 Block wise Literacy Level by Social Groups in Salem district (2011)

Literacy Level	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Male	293363	42989	12303	48250	62096	13162	34748	59623	38629	38452
Female	256237	28048	11769	34881	52616	9720	24666	44919	27717	26038
Total	**549600**	**71037**	**24072**	**83131**	**114712**	**22882**	**59414**	**104542**	**66346**	**64490**

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli, B10- Thalaivasal

Table Contd.

Literacy Level	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
Male	82561	56135	31411	80670	38416	47945	29607	39844	20711	29607	**1100522**
Female	54049	33184	29519	58034	25932	32823	17004	23118	10569	17004	**817847**
Total	**136610**	**89319**	**60930**	**138704**	**64348**	**80768**	**46611**	**62962**	**31280**	**46611**	**1918369**

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry
Source: Office of Deputy Director of Horticulture, Salem

Table 2.6 Literacy level in the district (2014-15)

Literacy level	Literates (No's)			Literacy Rate (Percentage)		
	Rural	Urban	Total	Rural	Urban	Total
Male	590535	694572	1285107	74.60	85.80	80.20
Female	418226	582229	1000455	56.30	73.40	65.20
Total	**1008761**	**1276801**	**2285562**			

Source: Tamil Nadu - An Economic Appraisal 2011-12 to 2013-14 Report, Govt. of Tamil Nadu, Chennai - 108

2.4.3 Households

Of the total population, the total households are 1154000 in number. There are cultivator households, scheduled caste households and schedule tribe households. Among 20 blocks in the district, Salem and Kolathur block recorded the highest household (and 188821 No's, respectively). The least number of households were in Yercaud
(10772 No's), Konganapuram (13603 No's) and Edappady block (14651 No's). The total number of cultivator households was 275529 No's. The detail of other households in the district was illustrated in the Table 2.7.

2.4.4 Working population

The total workers in the district were 16,94,160 No's. Of which 15,61,030 No's are main workers, 1,33,130 were marginal workers. From the total, 92.14 per cent of the population was main workers and 7.86 per cent were marginal workers. The main workers are inclusive of cultivators (15.17 per cent), agricultural labourers (26.81 per cent), households, servicing and processing workers (8.35 per cent) and other workers (49.67 per cent). The detail of the different working population was presented in the Table 2.8.

Table 2.7 Block wise house hold details

House Hold	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Number of households (Total)	188821	32873	80244	127331	50954	10772	28960	41718	41332	29128
Number of Cultivator households	5215	9441	7431	15188	15770	5066	15990	19384	24800	28237
Number of Scheduled Caste households	24977	1161	8431	34804	16054	730	6701	14415	3495	34634
Number of Scheduled Tribe households	352	20	10431	8283	4197	4973	14241	1106	2540	713

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli, B10- Thalaivasal

Table Contd.

House Hold	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
Number of households (Total)	188821	29084	41815	56830	24104	35207	93719	14651	13603	24033	**1154000**
Number of Cultivator households	10975	11640	12872	21164	19640	21164	24053	10768	9949	11582	**300329**
Number of Scheduled Caste households	24977	2245	1115	1243	2565	1243	3300	10200	471	1390	**194151**
Number of Scheduled Tribe households	352	182	0	349	14	349	577	0	0	97	**48776**

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry

Source: Office of Deputy Director of Horticulture, Salem

Table 2.8 Population by broad industrial categories of workers

S. No	Industrial category	Number	Percentage
1	**Total main workers**	1561030	92.14
a	Cultivators	257004	15.17
b	Agricultural Labourers	454210	26.81
c	Household Industry, manufacturing, Processing, Servicing and Repairs	141503	8.35
d	Other – workers	841443	49.67
2	**Marginal workers**	133130	7.86
	Total workers	**1694160**	**100.00**

Source: Book on Tamil Nadu - An Economical Appraisal 2011-12 to 2013-14, Govt. of TamilNadu, Chennai - 108

2.5 Topography

2.5.1 Soil Type

The soils of Salem District can be assorted into major type's *viz*., Red calcareous, Red non-calcareous, brown soil calcareous, Red colluvium calcareous, Red colluvium non-calcareous, Black soils, Alluvial calcareous, Brown soil non-calcareous. Above the soil types Red calcareous soil occupied most of the places in the district. Details of the soil types and its occurrence are briefly described in Table 2.9 & 2.10

Table 2.9 Soil types in the blocks

S.No	Type of Soil	Places in District
1.	Red calcareous	Parts of Salem, Attur, Sangakiri, Mettur, Omalur Taluks
2.	Red Non-Calcareous	Parts of Salem, Attur, Sangakiri, Mettur, Omalur Taluks
3.	Brown Soil calcareous	Parts of Salem, Sangakiri, Mettur, Omalur taluks
4.	Red Colluvial Calcareous	Parts of Salem, Sangakiri, Mettur, Omalur taluks
5.	Red colluvial Non Calcareous	Parts of Salem, Sangakiri, Mettur, Omalur taluks
6.	Black Soil	Parts of Salem, Attur, Sangakiri, Mettur, and Omalur taluks
7.	Alluvial Calcareous	Parts of Sangakiri and Mettur taluks
8.	Brown soil Non Calcareous	Yercaud taluk

Source: Asst. Soil Chemist, Salem (2011)

Table 2.10 Area of different soil types (ha)

S.No	Types	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	Black soil	0	732	1530	5420	3252	0	2872	4852	0	12650
2	Red soil	826.85	210	2074	9400	6837	2280	1398	5012	4856	7900
3	Alluvial	0	0	830	0	0	0	9565	2155	228	0
4	Loamy soil	1615.31	5715	1000	7666	0	0	1256	3199	3878	0
5	Problem soils	0	0	157	650	245	0	0	1285	0	0
	Total	**2442.16**	**6657**	**5591**	**23136**	**10334**	**2280**	**15091**	**16503**	**8962**	**20550**

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli, B10- Thalaivasal

Table 2.10 (Contd…)

S.No	Types	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
1	Black soil	0	0	3130.98	239	0	9313	3000	948	525	1507	**47516**
2	Red soil	0	8100	16325	7049	826.85	14683	13000	9026	312	7535	**101089.7**
3	Alluvial	0	0	0	1500	0	0	0	743	0	0	**14050**
4	Loamy soil	10825	0	0	750	1615.31	0	0	2463	7289	3516	**40931**
5	Problem soils	0	50	53	0	0	200	0	0	0	0	**2640**
	Total	10825	8150	19509	9538	2442.16	24196	16000	13180	8126	12558	**201370**

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry
Source: Office of Joint Director of Agriculture, Salem

2.6 Climatic Condition and Rainfall

Salem district receives major rainfall from the South West Monsoon followed by North East monsoon. In the year 2014-15 Salem receives the highest rainfall of 369.8 mm (Table 2.11) during June, July and August. Whereas, the 332.70 mm of rainfall was recored during NEM (Fig. 3). The receipt of the rainfall indicates that actural rainfall (1001.50 mm) is higher than that of normal rainfall (997.9 mm). Hence, the planning for crop cultuivation may be confined to the South west and North East monsoon.

Table 2.11 Distribution of Rain fall in South west and North east monsoon

Season / Month	2014-2015	
	Actual	**Normal**
South West Monsoon		
June	80.1	65.1
July	22.2	96.4
August	122.7	119.6
September	144.8	159.5
Total	**369.8 (36.92)**	**440.6 (44.15)**
North East Monsoon		
October	253.3	190.9
November	53.9	123.8
December	25.5	55.8
Total	**332.7 (33.22)**	**370.5 (37.13)**
Winter Season		
January	17.5	8.5
February	4.5	7.5
Total	**22 (2.20)**	**16 (1.60)**
Hot Weather		
March	30	16
April	143.3	54
May	103.7	100.8
Total	**277 (27.66)**	**170.8 (17.12)**
Annual rainfall	**1001.5 (100)**	**997.9 (100)**

Source: Season and Crop Report (2014-15)

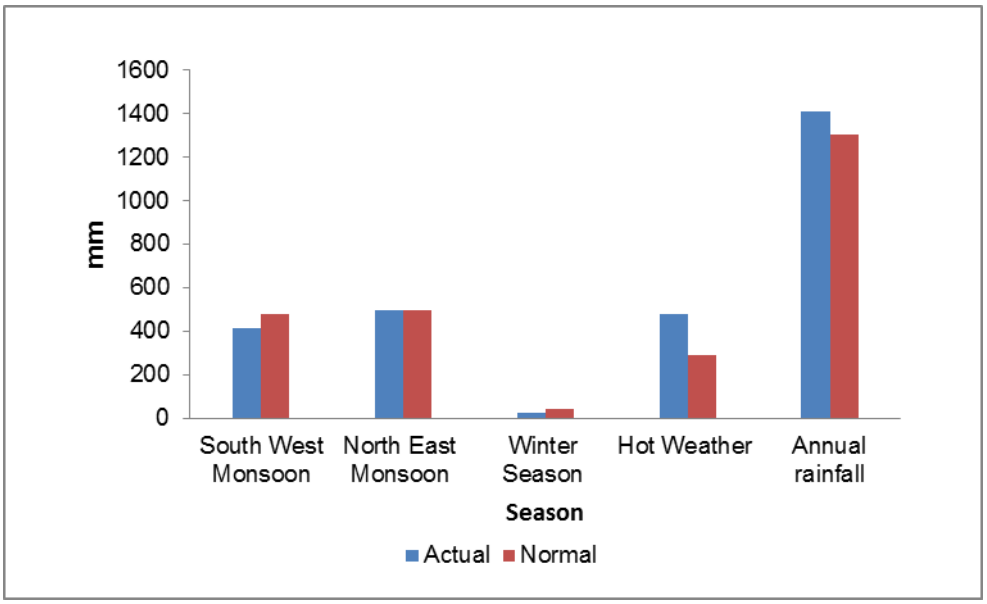

Fig 3. Mean and month wise rainfall (2014-15)

2.7 Land

2.7.1 Land and its types

Salem district forms part of the upland plateau region of Tamil Nadu with many hill ranges, hillocks and undulating terrain with a gentle slope towards east. The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Plateau, 2) Structural hills, 3) Bazada zone, 3) Valley fill, 4) Pediments, 5) Shallow Pediments and 6) Buried Pediments. A number of hill ranges are located in the northern and northeastern parts of the district, whereas the southern, western and eastern parts of the district are gently undulating and dotted with a few isolated hillocks. The important hill ranges in the district are Yercaud hills, Kanjamalai hills, Godumalai hills and Pachamalai hills.

The geographical area of the district is 520530 ha. During 2014-15, the gross cropped area was 327068 ha, which accounted for 62.83 per cent of the total geographical area. However, increasing area under current fallow, other fallow lands and land put to non-agricultural uses affect the net sown area and gross cropped area in the district. At the same time, it is important to note that area sown more than once is slowly declining during the recent years. The details of land utilization pattern of Salem are furnished in Table 2.14.The North Western Agro-climatic Zone shows considerable diversity in soil types. The major soil types occurring in the zone are a) Red non-calcareous, b) Red- Calcareous c) Alluvial d) Black soil e) Hill soil f) Forest soil and g) Saline/alkali soil. All these major areas come under red non-calcareous and red calcareous soils. Red/brown non- calcareous soil is predominant in the North-Western

Zone occupying 62.6 per cent followed by Red/Brown calcareous soil with 30.5 per cent. Black and alluvial soil contributes a meager 5.6 and 1.3 per cent, respectively.

The soils can be broadly classified into 6 major soils types viz., Red insitu, Red Colluvial Soil, Black Soil, Brown Soil, Alluvial and Mixed Soil. Major part of the district is covered by Red insitu and Red Colluvial soils. Black soils are mostly seen in Salem, Attur, Omallur and sankari taluks. Brown Soil occupies major portion of Yercaud and parts of Salem and Omallur taluks and the Alluvial Soil is seen along the river courses in Omallur and Sankari taluks. Mixed soil is occurring only in Attur taluk.

Table 2.12 Types of Land in the blocks (ha)

S.No	Types of Land	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	Wet land	150 (5.67)	930.67 (7.74)	1530 (33.23)	1938 (16.34)	450.15 (3.33)	0 (0.00)	1051 (7.41)	1290.17 (7.26)	1845 (8.06)	2838 (3.47)
2	Garden land	1900 (71.85)	1356.752 (11.28)	1074 (23.33)	6258 (52.77)	7756.28 (57.33)	0 (0.00)	4565 (32.17)	10464.09 (58.90)	16694 (72.95)	17889 (21.86)
3	Dry land	594.56 (22.48)	9743.98 (80.99)	2000 (43.44)	3663 (30.89)	5322.69 (39.34)	3972 (100.00)	8575 (60.43)	6012.09 (33.84)	4348 (18.99)	61096 (74.67)
	Total	**2644.56 (100.00)**	**12031.402 (100.00)**	**4604 (100.00)**	**11859 (100.00)**	**13529.12 (100.00)**	**3972 (100.00)**	**14191 (100.00)**	**17766.35 (100.00)**	**22885 (100.00)**	**81823 (100.00)**

Note: The figures in parentheses denote percentage to total

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli, B10- Thalaivasal

Table 2.12(Contd…)

S.No	Types of Land	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
1	Wet land	660 (7.76)	0 (0.00)	700 (5.41)	1146 (7.78)	658 (6.72)	992 (5.62)	4000 (28.44)	2750 (16.57)	656 (8.07)	0 (0.00)	21739 (7.74)
2	Garden land	6842 (80.49)	2026 (25.00)	1635 (12.63)	381 (2.58)	1827 (18.66)	142 (0.80)	2500 (17.77)	4400 (26.51)	1485 (18.27)	2909 (36.69)	75410 (26.85)
3	Dry land	998 (11.74)	6078 (75.00)	10614 (81.97)	13206 (89.64)	7308 (74.62)	16515 (93.58)	7565 (53.79)	9450 (56.93)	5985 (73.65)	5018 (63.31)	183716 (65.41)
	Total	**8500.20 (100.00)**	**8104.00 (100.00)**	**12949.00 (100.00)**	**14732.21 (100.00)**	**9793.43 (100.00)**	**17647.94 (100.00)**	**14065.00 (100.00)**	**16600.00 (100.00)**	**8126.00 (100.00)**	**7927.00 (100.00)**	**280865 (100.00)**

Note: The figures in parentheses denote percentage to total

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry

Source: Office of Joint Director of Agriculture, Salem

2.7.2 Land use pattern

The total Geographical area of the district is 520530 ha. It has been classified according to different types of land use during 2013-14 and presented in the Table 2.13, 2.14 & 15 below:

While cultivated land (cultivated atleast once in its entire span) consisting of net area sown, current fallow and other fallow lands is 280362 ha (which is 53.86% of the total geographical area), land not cultivated but available for cultivation (cultivable waste) is 5416 ha forming 1.04% of the total geographical area during 2014-15 (Fig. 5)

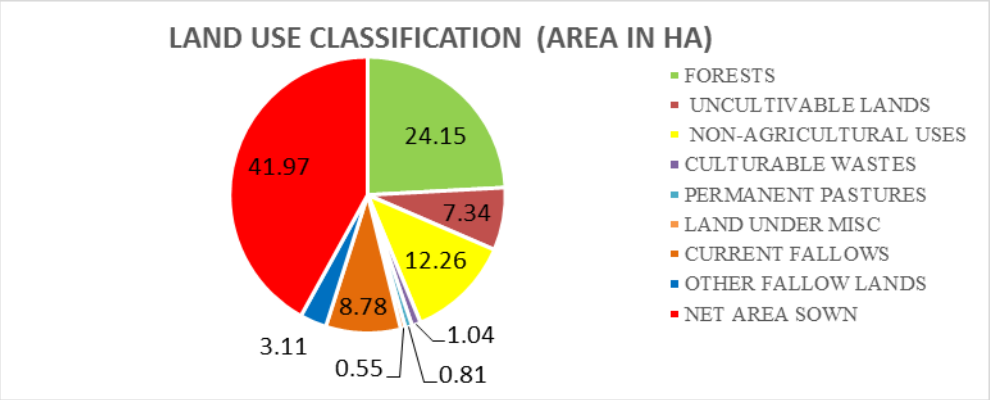

Fig. 4 Land Utilization Pattern of Salem District in 2014-15

Forest

Forest represent, forested area on the lands classed or administered as forest under any legal enactment dealing with forest, whether state owned or private. The forest area of the state during 2014-15 is 125682 ha accounting for 24.15% of the total geographical area of the district. Among the blocks, PN Palayam block has the highest forest area of 9740.94 ha which accounts for 23.06 per cent of the total geographical area. Veerapandy block with an extent of 1806.67 ha under forest is the second highest among block in their contribution to the forest area of the district. This works out to 8.29% of the district total forest area. This is followed by Kolathur block with 1010.55 ha (4.63%) and Nangavalli with 1102 ha (5.05%).

Barren and Uncultivable Land

Land which cannot be brought under cultivation unless at a high cost, whether such land is in isolated blocks or within cultivated holdings, such as mountains, deserts, hills etc. are classified as barren and uncultivable land.

An extent of 38198 ha of land comes under this category which represents 7.34% of the total geographical area of the state. Gangavalli block alone accounted for 3713 ha which is 100% of the district barren and uncultivable land and about 9.73% of its total barren land area under this category. The area under this category is absent in all the other blocks.

Land put to Non Agricultural Uses

The land put to use for purposes other than agriculture such as buildings, pathways, roads, social forests, bus stands, railway tracks, canals, rivers, local reservoirs, swamps, marshy and water logged areas, lands under still water etc. are brought under this category. Area under this classification is 61850 ha, accounting for 13.76 % of the district geographical area. Kolathur block possess the largest area of land under non-agricultural uses (10994.4 ha) which accounts for 3.72 % from the total geographical area.

Cultivable Waste

All lands available for cultivation whether not taken up for cultivation or taken up for cultivation once, but not cultivated during the current year and continuously for the last five years or more in succession for one reason or the other are classified as cultivable waste. Such lands may be either fallow or covered with shrubs and jungles which are not put to any use. The total area under cultivable waste is 5030 ha or 0.97% of the total geographical area of the district.

Salem, PN Palayam, Attur and Kadayampatti blocks together accounted for 64.97% of the area under this category. The area under this category is nil in Sankari blocks and very meager in Thalaivasal, Veerapandyand Konganapuram blocks with just 233.60 ha.

Permanent Pastures and other Grazing Lands

All grazing lands, whether they are permanent pastures or meadows are considered as Permanent pastures and other grazing lands. Village common and grazing lands within forested area are included under this category. An extent of 4200 ha or 0.81% of the geographical area of the district falls under this category. The extent under this category was the highest in P.N.Palayam block with 1716 ha (39.64%) followed by Thalaivasal block with 862.33 ha (19.73%).

Net Area Sown

Net area sown represents, the area sown under first crop during the fasli year. Out of 520530 ha of the total geographical area, 218448 ha of land constituting 41.96% was cultivated once (*i.e.*Net area sown) with various crops during the year 2014-15. Of the total net area sown in the district, the share of P.N Palayam block was the highest 16312 ha followed by Gangavalli block with 15284 ha, Attur block with 13222 ha, Mecheri block with 12949.4 ha and Edapady block with 12170 ha. The lowest net area sown was registered in Panamarathuppatti block with 4591.50 ha area.

Gross Area Sown

The Gross area sown represents the total area cultivated under all food and non-food crops including the area sown more than once during the fasli year. The gross area sown during 2014-15 is 305154 ha.

Area sown more than once

The area sown more than once represents the difference between the gross area sown under all crops and the net area sown during the fasli year. The area sown more than once during 2014-15 was 86706 ha. The area sown more than once is 39.69% of the gross area sown in the district during 2014-15.

2.7.3 Land Holding Pattern

The land holding pattern of Salem district is presented in the Table 2.16. The data provided in the below table indicated that the small holdings with a size up to 2.0 ha constitute about 33.38 per cent area. On the other hand, relatively large house holdings with a size of 2.1 to 4.0 ha constitute only 16.63 per cent in the area. The maximum of land holders with a size of 4.1 to 10 ha area and more than 10.0 hectare constitute 6.89 per cent and 4.74 per cent, respectively.

Table 2.13 Land Use Pattern (Triennium average ending 2014-15) and Extent of Waste Land Area (ha)

S.No	Particulars	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	Area under forest	669.681	1806.67	431.75	1337	909.63	412.96	9740.94	524.08	446.37	13.5.0
2	Barren and Uncultivable Waste	0	0	0	0	0	0	0	0	3713.03	0
3	Land put to Non-Agrl. Uses	5885.38	1907.66	2930.03	3496	1460.81	2986.78	2846.4	3986.46	2020.36	2770.51
4	Area under cultivable waste	2230.78	38	1400.81	1708	1480.19	304.03	6092.77	5468.91	426.94	153.60
5	Area under permanent pastures	56.529	52.97	58.33	470	4.8	128.655	1716.33	90.8	292.41	862.93
6	Area under miscellaneous tree crops and groves not included in net area sown	8.66	10	33.23	36	130.62	415.68	797.915	342.55	104.50	348
7	Area under current fallows	1483.6	2514.33	1374.21	2880	2646.79	1589.07	3728.26	2569.76	3035.26	6809.35
8	Area under other fallows	168.26	523	752.19	2084	1383.66	317.265	509.255	140.02	1399.46	250853
9	Net are sown	2644.56	6657.33	4591.5	10370	10089	8744.24	16312	13222	15284	1990.74
10	Total geographical area	13147.5	13639	11575.1	22486	18550.7	15416.3	42234.7	27190.5	38962.38	36026.2
11	Area sown more than once	568.66	1213.5	676.82	2415	3500.06	5524.09	5640	3005.31	1990.0	3796.77
12	Gross cropped area	3213.22	9293.5	5267.82	13267	13589.2	14268.3	21952	16227.3	17749	0
13	Extent of Waste Land	2399.04	561	2153	3792	15.44	621.295	6602.03	5608.92	1825.83	2521.3

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 -Gangavalli, B10- Thalaivasal Source: Office of Deputy Director of Horticulture, Salem

Table 2.13 (Contd.)

S.No.	Particulars	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
1	Area under forest	1010.55	1102	47.025	148.32	0	978.555	2219	0	0	0	**21784.53**
2	Barren and Uncultivable Waste	0	0	0	0	0	0	0	0	0	0	**3713.03**
3	Land put to Non-Agrl. Uses	10994.4	2089	1531.98	3652.52	1638.7	2561.99	106	3202	1713	1399.39	**59179.37**
4	Area under cultivable waste	521.57	488	360.455	36.23	687	2157.89		329	42	776.845	**24549.42**
5	Area under permanent pastures	1.32	3	73.79	123.31	39	141.795	142	39	20	12.455	**4329.42**
6	Area under miscellaneous tree crops and groves not included in net area sown	328	45.6	320.765	13.86	132.27	114.765	0	20	15	22.835	**3240.25**
7	Area under current fallows	3982.57	3072	2454.4	2707.35	1613.48	3857.82	4332	2641	1187	1711.66	**56189.91**
8	Area under other fallows	155.54	188		870.16	228.418	1615.5	299	476	448	304.635	**262715.36**
9	Net area sown	8198.74	8104	12949.4	9538.64	7355	12085.3	16731	12170	8126	8331.82	**193495.27**
10	Total geographical area	27134.4	16192	19509	18063	11693.9	23796.9	29955	19903	11928	12559.6	**429963.18**
11	Area sown more than once	568.66	2046	3883.22	1448.14	5141.79	3619.2	7469	5147	3462	3639.16	**64754.38**
12	Gross cropped area	3213.22	10050	16832.7	10986.8	12496.8	15704.5	14065	15681	11588	11971	**237416.36**
13	Extent of Waste Land	12525.6	676	0	906.39	915.418	3773.39	0	0	490	1081.48	**46468.13**

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac. Choultry

Source: Office of Deputy Director of Horticulture, Salem

Table 2.14 Land Use Pattern (2014-15)

Sl.No	Particulars	Area (ha)	Per cent
1	Geographical Area	520530	100
2	Forest	125682	24.15
3	Barren & Unculturable Area	38198	7.34
4	Land Put to Non-agricultural Uses	63792	12.26
5	Permanent Pastures & Other grazing lands	4200	0.81
6	Misc.tree crops & groves not incl. in the net area sown	2880	0.55
7	Current Fallow	45701	8.78
8	Other Fallow	16213	3.11
9	Net area sown	218448	41.97
10	Area sown more than once	86706	16.66
11	Gross area sown	305154	58.62
	Total	**1427504**	

Source: Season and Crop Report (2014-15)

Table 2.15 Land Use Pattern of Salem District (2014-15) & Compound Growth Rate (2000-01 to 2014-15) Per annum

S.No.	Classification	Area (ha)	CGR (%)
1	Forest	125682	0.00
2	Barren and Uncultivable uses	38198	-0.72
3	Land put to Non-Agricultural uses	63792	2.00
4	Cultivable Waste	5416	-0.99
5	Permanent pastures and other Grazing Land	4200	-3.25
6	Land Under Miscellaneous Tree Crops and Gross not included in Net Area Sown	2880	-1.56
7	Current Fallow	45701	6.44
8	Other Fallow Land	16213	2.43
9	Net Area Sown	218448	-0.87
10	Total Geographical Area	520530	0.00
11	Area Sown More Than Once	86706	-2.99
12	Total Cropped Area	305154	-1.38
13	Irrigated Area	95705	

Table 2.16 Land Holding Pattern (ha) at the block level

Sl.No.	Size of holding	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	> 1 ha.	1070.98 (40.50)	5540.96 (73.96)	1036 (16.48)	5430 (36.98)	11140.5 (86.54)	1746.06 (20.06)	1245 (7.02)	6234.58 (37.78)	13762.0 (67.78)	4165 (16.88)
2	1 - 2 ha.	943.11 (35.66)	903.24 (12.06)	1500 (23.86)	4975 (33.89)	1131.15 (8..79)	1548.8 (17.79)	11678 (65.89)	5511.05 (33.39)	4852.0 (23.89)	10529 (42.67)
3	2.1 - 4 ha.	420.67 (15.91)	721.49 (9.63)	1235 (19.65)	2994 (20.39)	539.72 (4.19)	1368.16 (15.72)	3250 (18.34)	3552.16 (21.52)	1404.0 (6.91)	5310 (21.52)
4	4.1 – 10 ha.	136.29 (5.15)	304.87 (4.07)	505 (8.03)	1105 (7.53)	61.52 (0.48)	1025.21 (11.78)	675 (3.81)	995.33 (6.03)	269.0 (1.32)	2608 (10.57)
5	Above 10 ha.	73.51 (2.78)	20.92 (0.28)	2010 (31.98)	178 (1.21)	0 (0.00)	3015.78 (34.65)	876 (4.94)	210.42 (1.27)	12.0 (0.0059)	2062 (8.36)
	Total	**2644.56 (100.00)**	**7491.48 (100.00)**	**6286 (100.00)**	**14682 (100.00)**	**12872.9 (100.00)**	**8704 (100.00)**	**17724 (100.00)**	**16503.5 (100.00)**	**20303.0 (100.00)**	**24674 (100.00)**

Note: The figures in parentheses denote percentage to total

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli, B10- Thalaivasal

Table 2.16 (Contd…)

Sl.No.	Size of holding	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
1	> 1 ha.	1648.2 (19.70)	4127 (50.93)	8966 (56.07)	3192.31 (34.18)	3400 (46.07)	6192.72 (38.21)	3465 (46.32)	6450.26 (38.86)	3886 (33.53)	5670 (71.54)	**84606.5** (38.36)
2	1 - 2 ha.	4252 (50.83)	2826 (24.86)	3976 (24.86)	3645.7 (39.03)	1480 (20.05)	5168.52 (31.89)	3009 (40.22)	4500.65 (27.12)	4278 (36.92)	1760 (22.21)	**73615.2** (33.38)
3	2.1 - 4 ha.	2464.2 (29.46)	588 (7.26)	2314 (14.47)	1879.34 (20.12)	750 (10.16)	3327.03 (20.53)	28 (0.37)	3815.68 (22.99)	1984 (17.12)	142 (1.79)	**36683.4** (16.63)
4	4.1 – 10 ha.	0 (0.00)	335 (4.13)	375 (2.34)	596.945 (6.39)	1200 (16.26)	1140.93 (7.04)	743 (9.93)	1744.28 (10.51)	1418 (12.24)	237 (2.99)	**15206.4** (6.89)
5	Above 10 ha.	0 (0.00)	228 (2.81)	361 (2.26)	26.2 (0.28)	550 (7.45)	376.66 (2.32)	235.5 (3.15)	86.31 (0.52)	22 (0.19)	117 (1.48)	**10449.3** (4.74)
	Total	**8364.4 (100.00)**	**8104 (100.00)**	**15992 (100.00)**	**9340.49 (100.00)**	**7380 (100.00)**	**16205.9 (100.00)**	**7480.5 (100.00)**	**16597.2 (100.00)**	**11588 (100.00)**	**7926 (100.00)**	**220561 (100.00)**

Note: The figures in parentheses denote percentage to total

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry

2.7.4 Number and size of operational land holding

The number and area of operational land holding patterns are given in the Table 2.17. The different classes of operational households are based on the area how much the household can hold. There are 307089 number of house holders and total area is about 268409.51 hectares. The majority of the population had area with a size of 0.5 to 1.0 ha size with a population of 78894 No's.

Table 2.17 Number and Extent of Operational Land Holdings (2014-15)

Size Class of holdings (ha)	Number				Area (in Hectares)			
	S.C.	S.T.	Others	Total	S.C.	S.T.	Others	Total
Below 0.5	9610	6405	124485	14050	2485.97	1757.02	31578.42	35821.41
0.5 to 1.0	4993	4794	69107	78894	3503.62	3428.72	49340.55	5672.89
1.0 to 2 ha	2569	4554	53548	60671	3470.20	6146.75	74480.78	84097.73
2.0 to 3.0	417	1367	14327	16111	977.64	3300.50	34418.45	38696.59
3.0 to 4.0	97	501	5119	5717	332.67	1701.52	17629.04	19663.23
4.0 to 5.0	40	234	2171	2445	173.43	1046.13	9652.30	10871.86
5.0 to 7.5	20.0	147	1701	1868	117.89	879.90	10131.23	11129.02
7.5 to 10.0	7.0	42	406	455	57.94	359.57	3456.72	3874.24
10.0 to 20.0	3.0	20	326	349	36.48	275.15	4497.57	4809.20
>20.0	2.0	4.0	73.0	79.0	40.62	111.25	3021.48	3173.35
Total	**17758**	**18068**	**271263**	**307089**	**11196.4**	**19006.5**	**238206.53**	**268409.51**

Source: State Hand Book (2014-15), Salem district

2.8 Sources of Irrigation

The details of irrigation and sources of water supply are described in the following Table 2.18 & 2.19.

Table 2.18 Area irrigated by different sources of water supply

S. No.	Area irrigated	Net Area Irrigated(ha)	Gross Area Irrigated(ha)
1	Canals	275	275
2	Tanks *	0	0
3	Tube wells	16309	21342
4	Ordinary wells	79121	106543
5	Other sources	0.00	0.00
	Total	**95705**	**128160**

Source: Asst.Director of Statistics, Salem

Table 2.19 Irrigation by different sources (Triennium average ending 2014-15)

Sl. No.	Sources	Gross area irrigated (ha)	Net area irrigated (ha)
1	Dug wells / Open wells	115405.00	85485.00
2	Tube wells / Bore wells	18768.67	14580.33
3	Tanks	0.00	0.00
4	Canals	403.00	399.67
5	Other sources	0.00	0.00
	Total	**134576.67**	**100465**

Source: Asst. Director of Statistics, Salem

The total net area irrigated during 2014-15 was 100465 ha. Tube wells and open wells contributed to the irrigation is 100065 ha area.

2.9 Major crops grown in the district

Cholam, Maize, Paddy Ground nut and Tapioca are the major crops grown in the district. Besides, crops like sugarcane and turmeric are also grown in the district. The details of the different crops cultivated are furnished in the Table 2.20. The district produces differenct crops in an area of 243129.30 ha with a total production of **2819662.00** tonnes and an average productivity of **279298.40** kg/ha.

Table 2.20 Area, production and productivity of major crops

(Triennium ending average 2014-15)

Sl.No	Particulars	Area (in ha)	Production (in tonnes)	Productivity (in kg/ha)
1	Paddy	19343.00	102748	5371.67
2	Maize	38005.00	376544	9908.00
3	Cholam	47452.00	85010	1791.67
4	Cumbu	1103.00	2282	2069
5	Ragi	9293.00	43633	4695.00
6.	**TOTAL CEREALS**	**115196.00**	612971	23835.34
7	Bengal Gram	4780	15.33	550.33
8	Red Gram	285	5090	1171.67
9	Black Gram	4780	5370.00	840.33
10	Green Gram	10201	7871.33	772.00
11	Horse Gram	5892.33	3753.33	574.33
12	Groundnut	20716.67	493615.00	2395.00
13	Sunflower	32.67	36.00	1459.00
14	Gingelly	2087.00	2096	1004.33
15	Castor	868.33	265.00	202.00
16	Cotton	15752.00	58479.67	631.67
17	Coconut	13928	1077.33	4603.00
18	Sugarcane	9433.00	927786.00	98.02

Sl.No	Particulars	Area (in ha)	Production (in tonnes)	Productivity (in kg/ha)
19	Tobacco	321.67	338.00	700.67
20	Onion	1067.00	7395.00.00	6930.67
21	Brinjal	1665.00	21220.00	3667.00
22	Bhendi	1889.33	11660.33	6172.00
23	Cabbage	39.00	2302.00	55314.67
24	Tomato	3315.00	19880.00	6401.00
25	Banana	1525.00	62075.00	40705.00
26	Mango	5423.00	21234.33	3874.67
27	Jack Fruit	40.33	632.00	12870.67
28	Pine Apple	3.67	113.00	30717.67
29	Guava	189.00	106800	5652.67
30	Orange	14.67	99.00	5273.67
31	Chillies	670.33	664	859.33
32	Garlic	2.00	6.00	1974.67
33	Pepper	826.00	152.33	184.00
34	Cloves & Cinnamon	50.00	72.33	1443.00
35	Coriander	35.67	21.00	439.67
36	Turmeric	6678.33	17746.00	3431.00
37	Tamarind	276.00	8582.00	3517.67
38	Potato	0.33	5.33	5215.00
39	Tapioca	15143.33	427563.00	28235.67
40	Sweet Potato	2.67	70.00	17581.00
	Total	**243129.30**	**2819662.00**	**279298.40**

Source: Joint Director of Agriculture, Salem

2.9.1 Major Crops and Varieties grown

Cholam, Maize, Paddy Ground nut and Tapioca are the major crops grown in the district. Besides, other crops like sugarcane, turmeric and chrysanthemums are also grown in the district. The details of the cropping pattern are furnished in the Table 2.21

2.9.2 Area under different crops in blocks

Factors such as fertility of land, monsoon behaviour, rainfall, irrigation, application of fertilizers, climatic conditions, marketing facilities, prices, availability of agricultural labour etc., determine the area, production and productivity of any crop. The crops like paddy cholam, maize, sugarcane, cotton, turmeric, ground nut, green gram and ragi are grown almost in all the blocks of the district.

Across the blocks, the Yercaud and Kadayampatti block had the highest area under cultivated lands *viz.,* 211.70 ha and 188.76 ha, respectively (Table 2.22). In Yercaud, crops like Samai (100 ha) and beans (97.87 ha) are cultivated in a larger area

while in Kadayampatti block, chrysanthemum (88.54 ha), ground nut (24.83 ha), mochai (11.22 ha) and ragi (13.02 ha) are the major crops cultivated. The other blocks which involved in crop cultivation are Mecheri (159.15 ha), Attur (128.73 ha) and Thalaivasal (126.98 ha). In these blocks, turmeric, cotton, tapioca, maize, ragi, mochai and cowpea are the predominant crops grown. The least area under cultivation between the blocks are Salem (12.41 ha), Nangavalli (37.14 ha) and Panamarathuppatti (29.03 ha).

Within the blocks, cholam, paddy, turmeric, samai, chrysanthemum, turmeric, mochai and beans are the crops which predominantly growing in the different blocks. The cropping pattern in the blocks depends upon the soil, climatic and rainfall pattern of the respective cropping period. In Yercaud block, since the elevation of the block is about 1300 m MSL, the soil is acidic and the block will receive both the South-West and North-East monsoons, plantation crops like Coffee, avocado, jack and spice crops like black pepper, cardamom are grown in a larger area. Vegetables like carrot, chow-chow and beans are the predominant one. Other millet like Samai are grown in these regions. In plains, chrysanthemum, turmeric and sugarcane are grown in larger area. The details of crop productivity and area across the blocks and within the blocks are furnished detail in the Table 2.23.

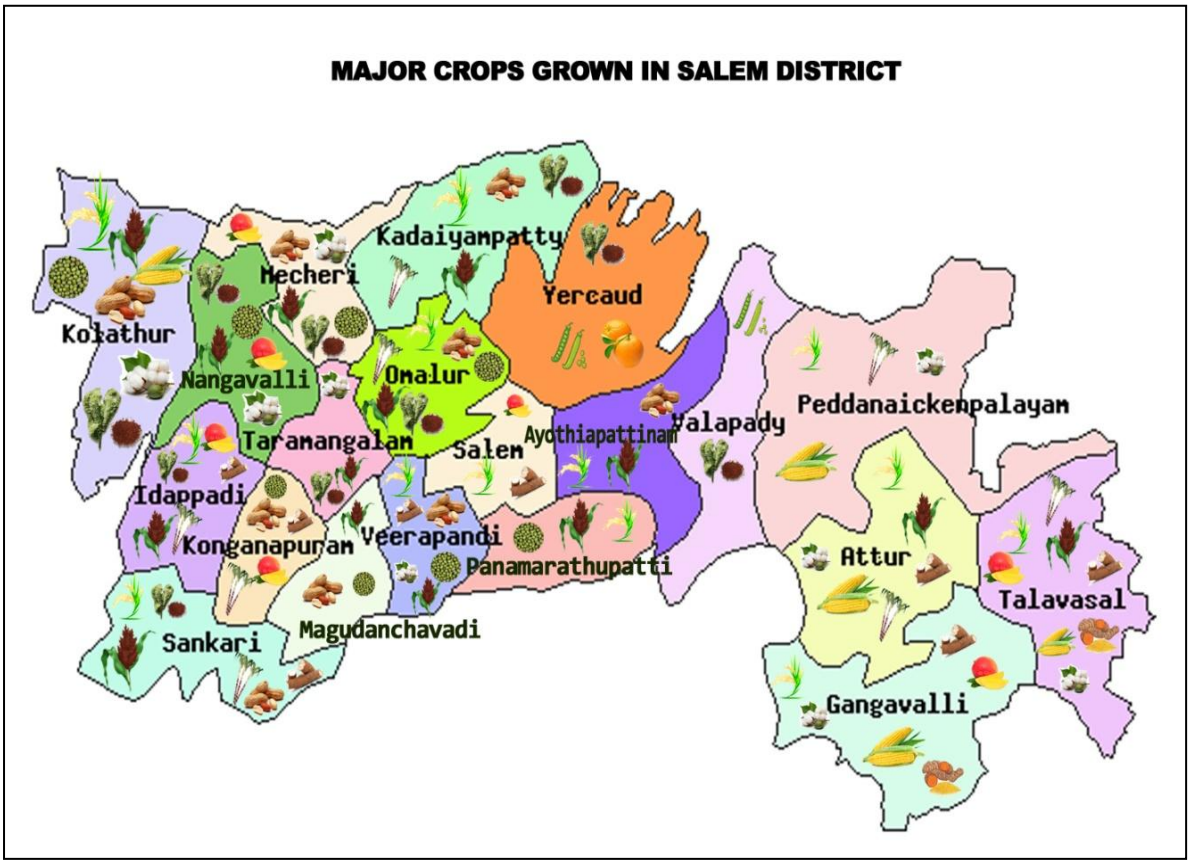

Fig.5 Major Crops grown in Salem

Table 2.21 Area under major Crops (Triennium average ending 2014-15)

(Hectares)

Name of the Crops	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Paddy	1001	861	858	1484	818	363	1883	1815	916	1935
Cholam	1104	4258	1970	2106	1855	471	916	2462	994	1481
Ragi	38	49	35	236	49	668	24	0	20	0
Maize	72	169	741	1102	2143	353	2901	9245	9284	9453
Samai	0	0	0	0	0	515	0	0	0	0
Greengram	5	604	561	0	0	0	0	0	0	0
Cowpea	48	1196	459	149	0	52	0	0	0	0
Mochai	48	71	0	0	0	20	0	0	2	0
Horsegram	4	180	0	307	94	46	0	0	0	0
Groundnut	167	747	424	883	402	0	293	236	70	376
Sugarcane	221	248	191	224	249	0	1146	895	135	642
Cotton	0	433	45	0	408	0	923	1841	848	4537
Tapioca	0	221	0	0	1099	0	0	984	1850	743
Beans	0	0	0	0	26	1180	0	0	0	0
Mango	0	81	0	0	237	0	0	43	399	87
Chrysanthemum	0	140	0	0	0	0	0	0	0	0
Turmeric	0	76	0	0	1133	0	0	911	1064	438

Source: Office of the Joint Director of Agriculture, Salem

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli, B10- Thalaivasal

Table 2.21 (Contd…)

Name of the Crops	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
Paddy	896	41	164	1569	158	933	5435	1635	205	309	**23279**
Cholam	2198	1353	1573	2327	1657	2517	2700	1911	56	2993	**36902**
Ragi	406	1044	2548	1122	732	1147	324	165	143	83	**8833**
Maize	1872	17	8	65	30	91	192	649	113	165	**38665**
Samai	0	0	0	0	0	0	0	0	0	0	**515**
Green gram	477	359	209	368	2424	0	0	0	547	924	**6478**
Cowpea	1143	0	3071	1188	2127	1669	0	0	220	471	**11793**
Mochai	12	0	2774	631	1727	668	0	0	3	0	**5956**
Horsegram	311	0	726	831	75	850	0	0	0	0	**3424**
Groundnut	1312	458	784	1407	499	1554	2230	2101	2741	2527	**19211**
Sugarcane	71	35	54	2340	136	2031	1862	624	382	326	**11812**
Cotton	700	534	432	22	502	0	159	838	522	121	**12865**
Tapioca	0	116	102	0	0	0	340	0	759	0	**6214**
Beans	0	0	0	0	0	0	0	0	0	0	**1206**
Mango	0	145	248	0	0	0	1428	0	170	0	**2838**
Chrysanthemum	0	0	93	0	0	1800	0	0	0	0	**2033**
Turmeric	0	0	76	0	9	0	43	0	13	0	**3763**

Source: Office of the Joint Director of Agriculture, Salem

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry

Table 2.22 Percentage of Area under major Crops (Across Blocks)

Name of the Crops	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Paddy	4.30	3.70	3.69	6.37	3.51	1.56	8.09	7.80	3.93	8.31
Cholam	2.99	11.54	5.34	5.71	5.03	1.28	2.48	6.67	2.69	4.01
Ragi	0.43	0.55	0.40	2.67	0.55	7.56	0.27	0.00	0.23	0.00
Maize	0.19	0.44	1.92	2.85	5.54	0.91	7.50	23.91	24.01	24.45
Samai	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00
Green gram	0.08	9.32	8.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cowpea	0.41	10.14	3.89	1.26	0.00	0.44	0.00	0.00	0.00	0.00
Mochai	0.81	1.19	0.00	0.00	0.00	0.34	0.00	0.00	0.03	0.00
Horse gram	0.12	5.26	0.00	8.97	2.75	1.34	0.00	0.00	0.00	0.00
Groundnut	0.87	3.89	2.21	4.60	2.09	0.00	1.53	1.23	0.36	1.96
Sugarcane	1.87	2.10	1.62	1.90	2.11	0.00	9.70	7.58	1.14	5.44
Cotton	0.00	3.37	0.35	0.00	3.17	0.00	7.17	14.31	6.59	35.27
Tapioca	0.00	3.56	0.00	0.00	17.69	0.00	0.00	15.84	29.77	11.96
Beans	0.00	0.00	0.00	0.00	2.16	97.84	0.00	0.00	0.00	0.00
Mango	0.00	2.85	0.00	0.00	8.35	0.00	0.00	1.52	14.06	3.07
Chrysanthemum	0.00	6.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turmeric	0.00	2.02	0.00	0.00	30.11	0.00	0.00	24.21	28.28	11.64

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9, - Gangavalli, B10- Thalaivasal

Table 2.22 (Contd…)

Name of the Crops	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	Total
Paddy	3.85	0.18	0.70	6.74	0.68	4.01	23.35	7.02	0.88	1.33	**100.00**
Cholam	5.96	3.67	4.26	6.31	4.49	6.82	7.32	5.18	0.15	8.11	**100.00**
Ragi	4.60	11.82	28.85	12.70	8.29	12.99	3.67	1.87	1.62	0.94	**100.00**
Maize	4.84	0.04	0.02	0.17	0.08	0.24	0.50	1.68	0.29	0.43	**100.00**
Samai	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**100.00**
Green gram	7.36	5.54	3.23	5.68	37.42	0.00	0.00	0.00	8.44	14.26	**100.00**
Cowpea	9.69	0.00	26.04	10.07	18.04	14.15	0.00	0.00	1.87	3.99	**100.00**
Mochai	0.20	0.00	46.57	10.59	29.00	11.22	0.00	0.00	0.05	0.00	**100.00**
Horse gram	9.08	0.00	21.20	24.27	2.19	24.82	0.00	0.00	0.00	0.00	**100.00**
Groundnut	6.83	2.38	4.08	7.32	2.60	8.09	11.61	10.94	14.27	13.15	**100.00**
Sugarcane	0.60	0.30	0.46	19.81	1.15	17.19	15.76	5.28	3.23	2.76	**100.00**
Cotton	5.44	4.15	3.36	0.17	3.90	0.00	1.24	6.51	4.06	0.94	**100.00**
Tapioca	0.00	1.87	1.64	0.00	0.00	0.00	5.47	0.00	12.21	0.00	**100.00**
Beans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**100.00**
Mango	0.00	5.11	8.74	0.00	0.00	0.00	50.32	0.00	5.99	0.00	**100.00**
Chrysanthemum	0.00	0.00	4.57	0.00	0.00	88.54	0.00	0.00	0.00	0.00	**100.00**
Turmeric	0.00	0.00	2.02	0.00	0.24	0.00	1.14	0.00	0.35	0.00	**100.00**

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac. Choultry

Table 2.23 Percentage of Area under Major Crops (Within the blocks)

Name of the Crops	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Paddy	36.96	9.22	16.24	22.86	9.61	9.90	23.29	9.85	5.88	9.83
Cholam	40.77	45.62	37.28	32.44	21.79	12.84	11.33	13.36	6.38	7.52
Ragi	1.40	0.52	0.66	3.64	0.58	18.21	0.30	0.00	0.13	0.00
Maize	2.66	1.81	14.02	16.98	25.17	9.62	35.88	50.16	59.58	48.00
Samai	0.00	0.00	0.00	0.00	0.00	14.04	0.00	0.00	0.00	0.00
Greengram	0.18	6.47	10.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cowpea	1.77	12.81	8.69	2.30	0.00	1.42	0.00	0.00	0.00	0.00
Mochai	1.77	0.76	0.00	0.00	0.00	0.55	0.00	0.00	0.01	0.00
Horsegram	0.15	1.93	0.00	4.73	1.10	1.25	0.00	0.00	0.00	0.00
Groundnut	6.17	8.00	8.02	13.60	4.72	0.00	3.62	1.28	0.45	1.91
Sugarcane	8.16	2.66	3.61	3.45	2.92	0.00	14.17	4.86	0.87	3.26
Cotton	0.00	4.64	0.85	0.00	4.79	0.00	11.41	9.99	5.44	23.04
Tapioca	0.00	2.37	0.00	0.00	12.91	0.00	0.00	5.34	11.87	3.77
Beans	0.00	0.00	0.00	0.00	0.31	32.17	0.00	0.00	0.00	0.00
Mango	0.00	0.87	0.00	0.00	2.78	0.00	0.00	0.23	2.56	0.44
Chrysanthemum	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turmeric	0.00	0.81	0.00	0.00	13.31	0.00	0.00	4.94	6.83	2.22
Total	36.96	9.22	16.24	22.86	9.61	9.90	23.29	9.85	5.88	9.83

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9 - Gangavalli,
B10- Thalaivasal

Table 2.23 (Contd…)

Name of the Crops	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
Paddy	9.53	1.00	1.28	13.22	1.57	7.04	36.94	20.64	3.49	3.90
Cholam	23.39	32.98	12.23	19.60	16.45	18.98	18.35	24.12	0.95	37.80
Ragi	4.32	25.45	19.81	9.45	7.26	8.65	2.20	2.08	2.43	1.05
Maize	19.92	0.41	0.06	0.55	0.30	0.69	1.30	8.19	1.92	2.08
Samai	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Green gram	5.08	8.75	1.62	3.10	24.06	0.00	0.00	0.00	9.31	11.67
Cowpea	12.16	0.00	23.88	10.01	21.11	12.59	0.00	0.00	3.75	5.95
Mochai	0.13	0.00	21.57	5.32	17.14	5.04	0.00	0.00	0.05	0.00
Horse gram	3.31	0.00	5.64	7.00	0.74	6.41	0.00	0.00	0.00	0.00
Groundnut	13.96	11.17	6.10	11.85	4.95	11.72	15.16	26.52	46.66	31.91
Sugarcane	0.76	0.85	0.42	19.71	1.35	15.32	12.66	7.88	6.50	4.12
Cotton	7.45	13.02	3.36	0.19	4.98	0.00	1.08	10.58	8.89	1.53
Tapioca	0.00	2.83	0.79	0.00	0.00	0.00	2.31	0.00	12.92	0.00
Beans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mango	0.00	3.53	1.93	0.00	0.00	0.00	9.71	0.00	2.89	0.00
Chrysanthemum	0.00	0.00	0.72	0.00	0.00	13.57	0.00	0.00	0.00	0.00
Turmeric	0.00	0.00	0.59	0.00	0.09	0.00	0.29	0.00	0.22	0.00
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 - Sankari, B18-Edappady, B19 - Konganapuram, B20- Mac. Choultry

2.9.3 Productivity of major crops

The productivity of major crops both in irrigated and rainfed conditions across the blocks is presented in the Table. Differences existed in average yield levels achieved at block level. The productivity of different crops under different area is presented in the Table 2.24.

The productivity under the irrigated condition was higher than the rainfed for all the crops. In Mac. Choultry block, the maximum yield was achieved in sugarcane (800 t/ha) wherein, the highest productivity recorded of Sugarcane is 807.3 t/ha. For cholam, Veerapandy block recorded the highest productivity (5.68 t/ha) and for paddy Omalur block recorded the highest productivity (15.75 t/ha). Mecheri and Kadayampatti block achieved the maximum yield in chrysanthemum (2.70 t/ha). In case of Tapioca, Nangavalli block achieved the maximum productivity under irrigated conditions (138 t/ha).

Table 2.24 Productivity of major crops (Tonnes/ha)

Name of the Crops	B1		B2		B3		B4		B5		B6		B7		B8		B9		B10	
	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Paddy	9.70	0.00	14.13	0.00	13.40	0.00	12.18	0.00	15.56	0.00	5.56	8.73	12.57	3.26	15.4	0.00	4.00	0.00	15.26	0.00
Cholam	2.49	2.49	5.68	3.75	2.45	1.94	3.29	2.53	2.29	2.04	4.25	0.89	2.25	1.98	2.60	0.00	3.36	2.40	2.57	1.12
Ragi	7.06	0.00	7.20	2.25	9.41	5.15	7.87	6.37	3.44	3.05	3.54	5.91	0.00	0.00	0.00	0.00	3.60	2.30	0.00	0.00
Maize	15.92	0.00	21.40	0.00	16.17	13.5	14.91	0.00	14.70	13.0	8.78	11.76	23.60	21.34	17.0	7.63	7.40	5.00	17.38	8.54
Samai	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Green gram	1.12	0.56	1.54	1.32	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Horse gram	0.00	0.67	0.00	0.68	0.00	1.10	0.51	0.39	0.00	0.00	1.20	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
cowpea	0.80	0.80	1.51	1.45	0.00	0.54	0.00	1.35	0.00	0.00	0.97	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mochai	0.80	0.80	0.53	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.90	0.00	0.00
Groundnut	4.80	4.80	2.83	1.05	5.00	3.55	4.53	2.94	4.59	4.10	0.00	0.00	5.15	4.38	4.39	0.00	1.95	1.50	4.80	0.00
Sugar cane	189.40	0.00	193.3	0.00	210.0	0.00	95.60	0.00	190.0	0.00	0.00	0.00	165.0	0.00	297.	0.00	123.6	0.00	175.00	0.00
Tapioca	5.00	0.00	0.00	0.00	0.00	0.00	36.00	0.00	62.00	52.0	0.00	0.00	0.00	0.00	28.0	0.00	45.0	23.5	32.00	0.00
Beans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mango	0.00	0.00	1.20	0.00	15.00	0.00	0.00	0.00	14.00	13.0	0.00	0.00	0.00	0.00	15.0	0.00	15.2	8.45	16.00	0.00
Chrysanthemum	0.00	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turmeric (dry)	0.00	0.00	2.50	0.00	0.01	0.00	5.00	0.00	6.00	0.00	0.00	0.00	0.00	0.00	5.60	0.00	5.0	0.00	6.00	0.00
Total	**237.09**	**10.1**	**255.0**	**11.1**	**273.3**	**25.8**	**179.8**	**13.5**	**315.7**	**89.8**	**27.6**	**29.78**	**211.1**	**33.01**	**409**	**7.63**	**212**	**44.0**	**296.8**	**9.66**

Source: Office of the Joint Director of Agriculture, Salem

B1- Salem, B2 - Veerapandy, B3 -Panamarathupatti, B4 - Ayothiyapattinam, B5 - Valapady, B6 - Yercaud, B7 - P.N.Palayam, B8 -Attur, B9, - Gangavalli, B10- Thalaivasal

I – Irrigated, R- Rainfed

Table 2.24 (Contd…)

Name of the Crops	B11		B12		B13		B14		B15		B16		B17		B18		B19		B20	
	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Paddy	9.70	0.00	12.88	0.00	9.95	0.00	15.75	0.00	13.09	0.00	10.38	0.00	10.42	0.00	10.59	0.00	5.00	0.00	9.70	0.00
Cholam	2.64	2.27	3.05	1.81	2.60	1.70	2.96	1.14	4.27	2.66	2.40	1.55	2.97	2.65	2.68	1.14	2.40	2.00	2.49	2.49
Ragi	7.31	0.00	11.10	2.16	6.45	1.35	9.20	2.23	4.85	2.33	6.45	1.35	4.83	2.23	4.83	2.23	7.40	4.20	7.06	0.00
Maize	16.22	0.00	0.00	14.40	11.25	0.00	15.92	0.00	0.00	0.00	12.65	0.00	15.92	0.00	24.57	0.00	14.20	0.00	15.92	0.00
Samai	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Green gram	1.12	0.56	1.29	1.14	0.00	0.00	0.00	1.69	0.58	0.53	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.89	0.00	0.00
Horse gram	0.00	0.67	0.00	0.00	0.00	0.45	0.00	2.01	0.00	0.40	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.00
cowpea	0.80	0.80	0.00	0.00	0.00	1.01	0.00	1.20	0.00	0.58	0.00	1.01	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00
Mochai	0.80	0.80	0.00	0.00	0.00	0.00	0.00	1.20	0.00	0.82	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ground nut	4.80	4.80	5.17	2.16	3.05	1.85	0.00	4.80	1.52	0.92	3.05	1.85	2.01	2.00	5.62	1.99	5.90	2.10	1.10	0.00
Sugar cane	189.4	0.00	186.0	0.00	199.0	0.00	189.4	0.00	195.0	0.00	199.0	0.00	335.0	0.00	305.0	0.00	95.00	0.00	800.0	800.0
Cotton	0.00	0.00	3.74	1.76	0.00	0.85	0.00	0.00	0.00	1.58	0.00	0.85	3.54	0.00	3.51	1.25	3.31	2.21	4.80	4.80
Beans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	7.10	0.00	0.00
Mango	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	9.00	7.00	0.00	0.00
Chrysanthemum	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turmeric	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00
Total	**353.2**	**9.9**	**411.2**	**99.43**	**235**	**7.21**	**233.2**	**14.2**	**223.3**	**9.82**	**236.6**	**7.46**	**411.7**	**6.88**	**356.8**	**6.61**	**143.9**	**27.01**	**882.0**	**807.3**

Source: Office of the Joint Director of Agriculture, Salem

B11- Kolathur, B12 - Nangavalli, B13 -Mecheri, B14 - Omalur, B15 - Tharamangalam, B16 - Kadayampatti, B17 –Sankari, B18 -Edappady, B19 - Konganapuram, B20- Mac.Choultry

I – Irrigated, R- Rainfed

2.10 Consumption of Chemical Fertilizers and Pesticides

The consumption of fertilizers and pesticides during 2014-15 is given in Table 2.25.

Table 2.25 Consumption of chemical fertilizers and pesticides

Fertilizers(in'000'Tonne)					Pesticides		Urea ('000'Tonne)
Nitrogenous (N)	Phosphatic ($P_2 0_5$)	Potassic ($K_2 0$)	NPK Complex	Total (NPK)	Dust (Kgs.)	Liquid (Lit.)	
49487	21324	31788	36283	13888	9957	10392	47

Source: J.D. Agriculture Office, Salem (2010-11)

2.11 Agricultural Engineering – Machineries and Implements

The number of agricultural implements and machineries in Salem district during 2014-15 are given in Table 2.26. Ploughs (220000 No's), water pumps for irrigation (1490009 No's), tractors (3421 No's) and Sugarcane crushers (770 No's) are the major implements found in the district. The tractors are available in private and also in Government which can be hired and utilized by the farmers at the emergency situations.

Table 2.26 Agricultural Implements and Machinery in Salem District (2014-15)

Sl.No.	Item	Numbers
1	**Ploughs**	
	a) Wooden	214292
	b)Iron	5708
	c) Total	**220000**
2	**Water Pumps for Irrigation Purpose**	
	a) WorkedbyOilEngine	29426
	b)WorkedbyElectric Power	119583
	c) Total	**1490009**
3	**Tractors**	
	a)Government	91
	b)Private	3330
	c) Total	**3421**
4	**Sugarcane Crushers**	
	a) WorkedbyPower	740
	b) WorkedbyBullocks	30
	c) Total	**770**

Sl.No.	Item	Numbers
5	**Oil Ghanis**	--
	a) 5 Kg.& above	--
	b) Less than 5Kg.	--
	c) Total	--

Source: Based on Quinquennial Livestock Census (2010-11)

2.12 Agricultural marketing and Regulated Markets

Regulated markets are the markets that are run by the Government to facilitate proper marketing of commodities which are produced by the farmers. To safe guard the farmers, from middle men and to facilitate them to get assured price for their commodities. In this market, the major crops grown in the district are marketed. There are 2 sub regulated markets in the Salem block. For these markets, a total of 29294 MT of Cereals, millets, pulses, spices and plantation crops are arrived during 2014-15. The details of Regulated market are presented in the Table 2.27.

Table 2.27 Regulated markets in the district (2014-15)

S. No	No. of Regulated markets	No. of Sub Regulated Markets	Quantity arrivals (in MT) (Product wise)		Receipts (product wise) Rs. in Lakhs
1	Salem	2	Paddy	3713	4.00
2	Valapaddy	--	Jowar	86	4.87
3	Attur	--	Bajra	52	0.12
4	Thalaivasal	--	Ragi	120	0.09
5	Gangavalli	--	Groundnut	31	1.08
6	Thammampatti	--	Gingelly	184	11.06
7	Karumandurai	--	Castor	3.00	9.04
8	Sankagiri	--	Chillies	74.0	0.08
9	Konganapuram	--	Tamarind	28.0	0.48
10	Kolathur	--	Canegur	2060	6.42
11	Mecheri	--	Cotton	1434	34.46
12	Omalur	--	Coconut	14087	146.77
13	Kadayampatti	--	Greengram	6.00	100.58
			Turmeric	4416	10.50
			Total	**29294**	**212.09**

Source: Agriculture Marketing Office, Salem District

2.13 Storage Facilities

Private and Government godowns are established for the storage of agricultural and non-agricultural commodities. The details of the storage facilities are presented in Table 2.28.

Table 2.28 List of Agricultural and Non-Agricultural Storage Godowns (2014-15)

Name and address of Agricultural Godowns	Name and address of Non-Agricultural Godowns
Private	
S.A.P.C.M.S, Salem	Fact, Salem
A.P.C.M.S, Attur	Spic, Salem
T.C.M.S Branch, Konganapuram	Tasmac, Salem
T.N.C.S.C, Salem	Shaw Wallace, Salem
T.N.C.S.C, Ariyagoundampatty	Tamil Nadu Warehousing 4, SeetharamanRoad, Salem -4
T.N.C.S.C, Seelanaickenpatty	Tamil Nadu Warehousing Ariyagoundam Patty, salem-5
T.N.C.S.C, Sankiri	Tamil Nadu Warehousing Paithur Road, Attur
T.N.C.S.C, Edapaddy	
T.N.C.S.C, Mettur	
T.N.C.S.C, Omalur	
T.N.C.S.C, Attur	
T.N.C.S.C, Gangavalli	
A.M Committee Godown	
Selvi Cold Storage, Kakapalayam	
Food Corporation of India, Salem	
Salem Leigh Bazaar, Salem	
Government: Agriculture Depots in all 20 Blocks	

Source: District Warehousing Office and Joint Director Agriculture Office

The district was well equipped with the cold storages and godowns. Generally, the majority of the agricultural and horticultural commodities are wasted due to lack of storage facilities.There are 3 cold storages for preservation of agricultural commodities, fruits and vegetables and 6 Uzhavar Sandhai's for marketing of different commodities and 10 drying yards at different places of the district. The detail of the storage facilities are given in the Table 2.29.

Table 2.29 List of Cold Storage and Godowns (2014-15)

Sl. No	Name and address of the Cold storage
1	Selvi Cold Storage, Kakapalayam, Sankagiri Taluk
2	Sri Krishna Cold Storage, 10/5, Paranattamangalam main road, Salem
3	Tomato Cold Storage, Mecheri
4	Uzhavar sandhai – Suramangalam, Dadhagapatti, Ammapet, Attur, Hasthampatti
5	Drying yard- Ramanaickenpalayam, Kallanatham, Abinavam, Deviyakurichi, Veeragoundanoor, Aragalur, Singipuram, Panamadal, Kalpaganur and Olapadi.

Source: Statistical Handbook of the district (2014-15)

2.14 Sericulture

Apart from the agriculture activities, the district also involved in the production of allied sectors in different blocks. The area under mulberry cultivation and rearing of silk worm is highest in Ayothiyapattinam block (246 ha and 36580 kgs of Cocoons). The district took up the mulberry cultivation in about 2100 ha with a production of 492920 kgs during the year 2010-11. The Cocoon production in the district was going on for the value of 85.91 lakhs. The details of mulberry cultivation, Cocoon production and productivity in the block wise are presented in the Table 2.30.

Table 2.30 Sericulture development in the district (2014-15)

Name of the block	Area under Mulberry (Acres)	Production of Cocoons (kgs)	Value of the Cocoon (₹. in lakhs)
Salem	35.00	805.00	2.01
Veerapandy	155.00	3565.00	6.42
Panamarathupatti	195.00	4485.00	8.07
Ayothiyapattinam	246.00	36580.00	7.32
Valapady	143.00	3289.00	4.93
Yercaud	17.00	391.00	0.78
P.N.Palayam	55.25	1270.00	1.90
Attur	72.75	1656.00	3.31
Gangavalli	102.70	2346.00	4.69
Thalaivasal	84.50	1932.00	3.86
Kolathur	120.20	2260.00	3.84
Nangavalli	31.50	736.00	1.25

Name of the block	Area under Mulberry (Acres)	Production of Cocoons (kgs)	Value of the Cocoon (₹. in lakhs)
Mecheri	90.25	1570.00	3.30
Omalur	193.00	4439.00	9.99
Tharamangalam	25.00	525.00	1.15
Kadayampatti	124.50	412920.00	85.91
Sankari	29.50	690.00	1.24
Edappady	120.50	783.00	1.41
Konganapuram	190.25	28700.00	5.45
Mac. Choultry	69.00	1587.00	11.17
Total	**2100.00**	**412920.00**	**85.91**

Source: State Handbook (2014-15), Salem district

2.15 Animal husbandry and Dairy development

2.15.1 Livestock population

Livestock farms are maintained for selective scientific breeding of specific species of livestock which serves as demonstration farm units and training centre for needy farmers. Moreover, it acts as a source for quality livestock tothe farmers.The livestock population includes cattle and poultry are illustrated in the Table 2.31. As per the Census, 2011 the total livestock in the district is about 1426123 numbers. Of which 38.76 per cent of the population is shared by cattle's of exotic and cross breeds. 30.86 per cent of the population were goats followed by sheep (23.42 per cent), buffaloes (5.49 per cent) and lesser numbers of donkeys, camels and pigs. The population of poultry in the district is about 10631500 numbers. The district constitutes about 1137215 numbers of backyard poultry and 9494285 numbers of farm poultry.

Table 2.31 Livestock population in the district (2011)

Sl.No.	Particulars	Population	Per cent
1	Cattle	552717	38.76
2	Buffaloes	78262	5.49
3	Sheep	334048	23.42
4	Goats	440036	30.86
5	Horses and ponies	141	0.01
6	Donkeys	595	0.04
7	Camels	3	0.00
8	Pigs	20321	1.42
	Total Livestock	**1426123**	**100.00**
9	Dogs	127089	
10	Rabbits	2617	
	Poultry		
11	Back yard Poultry	1137215	
12	Farm Poultry	9494285	
	Total Poultry	**10631500**	

Source: 12th Livestock Census, 2012

Table 2.32 Block wise livestock population of Salem district

Livestock population	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Cattle	38673	33980	43179	27050	24560	24653	17443	15648	31210	28278
Buffalo	876	1427	1550	5940	5822	7162	4218	3433	4544	5706
Sheep	1109	1454	3067	42317	21404	24354	29609	20100	36330	31102
Goat	49981	29155	36121	8973	13639	17785	8312	5774	24896	14821
Pigs	3162	978	2179	72	148	144	2	179	0	41
Poultry	437114	57507	217209	87426	46301	48017	48771	70867	97653	56158
Others	48	10	0	0	0	0	0	0	0	0
Total	**530963**	**124511**	**303305**	**171778**	**111874**	**122115**	**108355**	**116001**	**194633**	**136106**

B1-Attur, B2 - Ayothiyapattinam; B3 -Gangavalli; B4 - Edapadi; B5-Kadayampatti; B6-Kolathur; B7 - Konganapuram; B8- Magudanchavadi; B9 - Mecheri; B10- Nangavalli

Table 2.32 (Contd...)

Livestock population	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
Cattle	37521	15215	34838	19627	32930	63151	10702	60624	21843	7198
Buffalo	12129	4224	917	2134	10833	1829	2351	1427	3626	12
Sheep	21791	6464	2764	6909	53386	4515	14088	1454	21531	165
Goat	11121	20938	32365	14956	33355	64292	5556	29155	16452	11540
Pigs	150	1435	3867	1169	184	4224	0	978	525	390
Poultry	82451	27199	924497	29726	94756	1887024	34764	57507	62693	10191
Others	0	6	0	67	0	0	0	11	59	462
Total	**165163**	**75481**	**999248**	**74588**	**225444**	**2025035**	**67461**	**151156**	**126729**	**29958**

B11- Omalur; B12 - Panamarathuppatti; B13 - Pethanaikkanpalayam; B14- Salem; B15 - Sankari; B16-Thalaivasal; B17-Tharamangalam; B18- Valapadi; B19 - Veerapandi; B20- Yercaud

Source: TANUVAS, Chennai

2.15.2 Veterinary institutions and hospitals

The majority of the blocks in the district possess dispensaries, clinical centres and mobile units for welfare of the livestock's. In case of hospitals, only few are present in the blocks such as Omalur, Kolathur and Edappady. A total of 68 dispensaries are present in the 20 blocks. About 981373 animals were treated during 2010-11 and 43813 animals were castrated. The details of animals treated and institutions located are presented in the Table 2.33.

Table 2.33 Veterinary hospitals in the district

S. No	Name of the block	Veterinary institutions				Sub centres	Mobile units	Animals treated	Castration performed
		Polyclinic	Govt. Hospitals	Dispensaries	Clinical centres				
1	Salem	-	-	3	-	4	1	39710	2926
2	Veerapandy	-	1	5	-	3	-	39322	2706
3	Panamarathupatti	-	-	4	-	3	1	37103	3917
4	Ayothiyapattinam	-	-	5	-	5	1	78217	2803
5	Valapady	-	-	2	-	3	-	35063	3117
6	Yercaud	-	1	2	-	1	1	11093	574
7	P.N.Palayam	-	-	4	-	3	1	50016	2503
8	Attur	-	1	3	-	3	-	41274	2496
9	Gangavalli	-	-	5	-	4	1	64003	5714
10	Thalaivasal	-	-	4	-	4	-	56411	2916
11	Kolathur	-	1	3	-	2	-	42165	2666
12	Nangavalli	-	-	3	1	1	1	75207	841
13	Mecheri	-	-	3	1	1	-	25142	865
14	Omalur	-	1	3	2	1	1	62907	569
15	Tharamangalam	-	-	2	2	1	-	20964	887
16	Kadayampatti	-	-	3	1	1	-	69617	1023
17	Sankari	-	-	6	1	2	-	70474	2932
18	Edappady	-	1	2	-	2	-	46702	1357
19	Konganapuram	-	-	3	-	0	-	63968	849
20	Mac. Choultry	-	-	3	1	1	-	52005	2141
	Total	**-**	**6**	**68**	**9**	**45**	**7**	**981373**	**43813**

Source: District Animal Husbandry Office, Salem

The infrastructure facilities in the district are furnished in the Table 2.34. The district possesses the cooperative marketing society, veterinary clinics and milk collection centre for effective functioning of the dairy department. Thalaivasal block possess the highest number of milk collection centres (140 No's) followed by the Veerapandy block (84 No's). The least milk collection centres are located in the Yercaud block (10 centres) which is the hill station. Also, the district recorded a reasonable number of veterinary clinics and cooperative marketing society. The district has scope for creation of infrastructure facilities for dairy development.

Table 2.34 Block wise infrastructure facilities in the district

Infrastructure facilities	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Co-operative marketing society	10	18	9	9	17	0	0	6	0	0
Veterinary clinics	8	12	9	5	5	7	4	6	5	6
Milk collection centre	45	47	35	60	62	44	36	32	35	38

B1-Attur, B2 - Ayothiyapattinam; B3 -Gangavalli; B4 - Edapadi; B5-Kadayampatti; B6-Kolathur; B7 - Konganapuram; B8- Magudanchavadi; B9 - Mecheri; B10- Nangavalli

Table 2.34 (Contn.)

Infrastructure facilities		B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
Co-operative marketing society		13	8	15	79	0	19	8	0	8	0
Veterinary clinics		8	8	8	9	9	11	5	6	9	4
Milk collection centre		54	14	45	28	60	140	59	84	55	10

B11- Omalur; B12 - Panamarathuppatti; B13 - Pethanaikkanpalayam; B14- Salem; B15 - Sankari; B16-Thalaivasal; B17-Tharamangalam; B18- Valapadi; B19 - Veerapandi; B20-Yercaud

Source: TANUVAS, Chennai

2.15.3 Dairy development

Cattle and Buffalo Development activities are mainly aimed to increase milk production through extensive crossbreeding of non-descriptive cows and upgrading local buffaloes.The district produced 4775580 litres of milk through Salem Co-operative Milk

Producers for worth of 2243484784 rupees during the year 2014-15. The details are given in the Table 2.35.

Table 2.35 Dairy development in the district (2014-15)

Name of the block/Urban Town	Name and address of milk societies	Quantity of milk produced (in litres)	Value of milk produced (in Rs.)
Salem district	The Salem Dist. Co-operative Milk Producers Union Ltd, Salem	4775580	2243484784

Source: Concerned Milk Societies, Salem

2.15.4 Poultry development

Poultry rearing is one of the important activities of Animal Husbandry Sector in the district. The development of poultry industry is significant in the district. This has been achieved by establishing Poultry Extension Centres, which acted as demonstration farms and extension centres to provide training to take up poultry rearing.

Table 2.36 Poultry development in the district (2014-15)

S. No	Name of the block	Broiler (No's)	Layer (No's)
1	Salem	365000	0.00
2	Veerapandy	0.00	0.00
3	Panamarathupatti	23750	6000
4	Ayothiyapattinam	209100	137500
5	Valapady	201000	115500
6	Yercaud	0.00	0.00
7	P.N.Palayam	237250	155000
8	Attur	363100	0.00
9	Gangavalli	63000	0.00
10	Thalaivasal	7500	273500
11	Kolathur	0.00	0.00
12	Nangavalli	0.00	80000
13	Mecheri	4800	16500
14	Omalur	18500	10500
15	Tharamangalam	16000	19000
16	Kadayampatti	52000	0.00
17	Sankari	0.00	0.00
18	Edappady	66000	0.00
19	Konganapuram	26000	0.00
20	Mac. Choultry	0.00	0.00
	Total	**1653000**	**813500**

Source: Concerned J.D, A.D, Animal Husbandry, Salem

The poultry development in the district was given in the Table 2.36. The district produced both the broilers and layers. The broilers was the highest (813500 No's) than layers (1653000 No's). Amongst all the blocks, Salem and Attur block had reared the highest numbers of broilers(365000 & 363000, respectively) but in case of layers the same blocks were none. Few blocks like Veerapandy, Yercaud, Kolathur, Sankari and Mac. Choultry have not involved rearing neither broilers nor layers. The population in these blocks was engaged in crop cultivation.

2.15.5 Egg production

The total milk and egg production in the district is given in the Table 2.37

Table 2.37 Milk and Egg production in the district (2014–15)

District / year	Milk ('000' Tonnes)		Egg(Lakhs)	
	2013-14	2014-15	2013-14	2014-15
Salem	523.60	540.10	4527.30	2840.60

Source: Director of Animal Husbandry and Veterinary Services, Chennai - 06

2.16 Fisheries

As per the statistical data (2010-11), all most all the blocks in the district possess inland fish catching centres with a production of 8130 tonnes (Table 2.38). Since the district is located in the North Eastern zone, marine fishing is lacking. A total of 6210 fisherman's in the district were engaged in fishing. Of which, Panamarathuppatti block had the highest number of fisherman's in the district. Interms of production, Kolathur block recorded the highest production of about 1329 tonnes of inland fish in the district in the year 2010-11.

Table 2.38 Fisheries production and development in the district (2011)

Sl. No	Name and Address of the fishing centres	Inland Fish Catch (Tonnes)	Marine Fish Catch (Tonne)	Number of Fisherman engaged
1	Salem	561		430
2	Veerapandy	320		130
3	Panamarathupatti	335		570
4	Ayothiyapattinam	400		190

Sl. No	Name and Address of the fishing centres	Inland Fish Catch (Tonnes)	Marine Fish Catch (Tonne)	Number of Fisherman engaged
5	Valapady	630	Not Applicable	465
6	Yercaud	850		10
7	P.N.Palayam	275		495
8	Attur	528		585
9	Gangavalli	382		360
10	Thalaivasal	300		130
11	Kolathur	1329		745
12	Nangavalli	435		540
13	Mecheri	595		730
14	Omalur	300		75
15	Tharamangalam	210		20
16	Kadayampatti	175		210
17	Sankari	160		40
18	Edappady	310		310
19	Konganapuram	130		155
20	Mac. Choultry	95		20
	Total	**8130**		**6210**

2.17 Banking and Insurance

The banking and insurance details in the district are presented in the Table 2.39. The banks in the district are Commercial bank, S.C.C.B, S.L.D.B, T.L.C and RBI. The maximum deposits are in commercial bank followed by S.C.C.B and advances are also high in Commercial bank

Table 2.39 Commercial banks in the district (2010-11)

Items	Deposits (Rs. in 000)	Advances (Rs. in 000)	Credit Deposit Ratio	Sector wise Credit details
Commercial Bank - 219	72942.506	80480.167	110	50111.258
S.C.C.B – 36	8407.498	8826.774	105	4978.946
S.L.D.B - 6	0	66.448	0	66.448
T.L.I.C-1	15.275	216.318	1416	213.699
RBI	--	--	110	55646.323

Source: Lead Bank Credit Plan, 2010-11

The district possesses different insurance schemes for the welfare of the people. The insurance agencies issued a total of 357268 policies in about 255 branches of agencies. Total number of beneficiaries benefitted through various agencies isabout 229377. The total amount paid as compensation through insurance agencies is about 170.4873 Crores. The details of policies and sum assured in the districts are illustrated in the Table 2.40.

Table 2.40 Insurance schemes in the district

Name of the Insurance	No. of branches	Policies issued	Sum Assured (in Crores)	No. of beneficiaries	Amount paid as compensation (in Crores)
L.I.C	8	169957	1426.72	54478	138.54
New India	3	48609	--	62346	8.79
General United India Insurance	5	80512	NA	80512	14.19
Other connected schemes	3	22554	--	22554	4.25
RPLI	235	15922	126.19	7719	0.5073
Oriental Insurance	1	19714	NA	1768	4.21
Total	**255**	**357268**	**357523**	**229377**	**170.4873**

Source: Concerned Insurance Institutions

2.18 Co-operation

The Cooperative societies, banks and stores in the district are presented in the Table 2.41. The district possess 483 various societies for the management of funds among the people. Of which, 206 are Primary Agricultural Co-operative banks, 127 are students co-operative stores and 101 are employment and credit societies. There are about 6.88 lakhs people are member in the societies. The maximum number of members in the district is in Co-operative banks (341533) and Co-operative urban banks (122969 No's). The major share capital holds by student's co-operative stores is about 7995.26 lakhs. About 2804 employees are working in the various societies. The other details of the societies are given clearly in the tabulated column.

Table 2.41 Cooperative societies in the district (2014-15)

Loans and Advances (Rs. in Lakhs)

S. No	Types of societies	No. of societies	Membership	Share capital	Working capital	Out standing	Overdue	No. of employees
1	Salem district Central Co.op Bank	1	1963	3440.64	243861.16	162598.52	4082.98	334
2	Salem District Consumer Co.op wholesale stores	1	44165	71.83	141.56	*	*	256
3	Salem District Co-op Union	1	1304	*	*	*	*	4
4	Salem Co-op Printing Press	1	1479	20.20	29.30	63.01	**	35
5	Nachiappa Institutes of Co-op Management	1	693	1.11	*	*	*	5
6	Primary Agri. Rural & Development banks	6	31816	192.88	1813.19	1428.69	510.37	25
7	Co-op Urban Banks	8	122969	845.31	48661.64	64861.70	2536.09	362
8	Urban Credit Societies	*	*	*	*	*	*	*
9	Agricultural Producers Co-op marketing Societies	2	49198	17	1448.88	1215.85	5.15	145
10	Lamp Co-op Societies	5	26790	144.50	1851.95	1130.66	188.30	95
11	Primary Agri. Co.op Banks	206	341533	3838.63	63458.78	60784.74	3839.47	1367
12	Employees Co.op Thrift and credit societies	101	15192	3567.37	15770.82	30256.63	273.60	102
13	Primary Co-op stores	4	2331	2.35	52.14	*	*	*
14	Employees Co-op stores	12	44519	182.8	195.51	14.93	5.49	68
15	Labour contract Co-op Societies	1	48	0.67	1.59	*	*	1
16	Labour Colonization Co-op Societies	2	126	7.42	40.39	28.45	958	2
17	Lift Irrigation Co-op Societies	1	545	3.86	11.26	*	*	1
18	Vegetable growers marketing Societies	*	*	*	*	*	*	*
19	Students Co-op Stores	127	3492	7995.26	4.84	9.56	0.12	2
20	Semi Modern Co-op Stores	*	*	*	*	*	*	*
	Total	**483**	**688163**	**20331.83**	**377343.01**	**2923992.74**	**8316.59**	**2804**

Source: Special officer, Co-Operative societies, Salem

CHAPTER III

DEVELOPMENT OF AGRICULTURAL AND ALLIED SECTOR

Before suggesting an action plan for development of agriculture and allied sectors, a brief analysis (at district level) of the following components will ensure the current status of the agriculture and allied departments.

i. Assessing the trends in area, production and productivity of major crops and projection till the 12th Plan period (2015-16)
ii. Yield gap analysis for the major crops

3.1 Trends in area, production and productivity of major crops

The past trends in area, production and productivity of major crops need to be analyzed to plan for future agricultural development. Compound Growth Rate (CGR) is used to measure the annual rate of growth in area, production and productivity of major crops cultivated in the district and it is expressed in percentage. The compound growth rate has been estimated using time series data from 1996-97 to 2014-15 due to availability data for Salem district from 1996-97 onwards. The equation used to estimate the annual compound growth rate is:

$$Y_t = ab^te$$

Logarithmic form of the above equation is: $\ln Y = \ln a + t \ln b$

The compound growth rate (CGR) in percentage is derived using the formula:

$$CGR(r) = [\text{Antilog } b-1] \times 100$$

Where,

Y_t = Area or Production or Yield

a = Intercept

b = Regression coefficient of t

t = Time variable

r = Compound Growth Rate

The CGR of area, production and yield of major crops grown in Salem district are given in Table.

The triennium average of area production and productivity of Salem district is furnished in table 3.1. Among the crop cultivation, five crops were selected based on percentage share to gross cropped area (i.e. cumulative percentage). There are paddy, maize, ground nut, tapioca and cholam.

Table 3.1 Area under major crops in Salem district (Triennium average ending 2014-15)

Sl.No	Crop	Area (Ha)	%	Production	Yield (Kg/ ha)
1	Paddy	17473	9.87	84251	4742
2	Cholam	32738	18.49	44454	1220
3	Maize	34399	19.43	270752	7700
4	sugarcane	12523	7.07	1154937	90
5	Banana	1864	1.05	73260	39706
6	Mango	5233	2.96	21234	4097
7	Guava	205	0.12	1296	6152
8	Tapioca	14610	8.25	385155	26339
9	Onion	1011	0.57	8698	8545
10	Chillies	670	0.38	479	701
11	Brinjal	1510	0.85	6702	4466
12	Ladys finger	1889	1.07	11660	6172
13	Tomato	2937	1.66	19880	6798
14	Cotton	14851	8.39	50470	579
15	Groundnut	19034	10.75	40327	2105
16	Gingelly	1822	1.03	1610	875
17	Coconut	14287	8.07	N.A	N.A
	Total	**177058**	**100.00**		

N.A denotes Not Available

Table 3.2 Compound Growth Rates (CGR) of Area, Production and Productivity under major crops in Salem District

Sl.No	Crop	CGR during 2005-2006 to 2014-2015 (%)		
		Area	Production	Productivity
1	Paddy	-6.22	-2.33	4.14
2	Cholam	12.00	17.61	5.00
3	Maize	14.85	36.27	18.65
4	sugarcane	0.43	0.34	-0.57
5	Banana	-2.48	-5.25	-2.85
6	Mango	11.83	7.34	-4.02
7	Guava	-3.03	-12.73	-10.01
8	Tapioca	-8.86	-11.83	-3.26
9	Onion	17.79	17.51	-0.24
10	Chillies	-2.828	-3.17	-0.36
11	Brinjal	16.10	8.98	-7.79
12	Ladys finger	28.52	28.12	0.11
13	Tomato	2.37	-0.28	-2.59
14	Cotton	-0.03	6.43	6.57
15	Groundnut	-3.17	0.67	6.46
16	Gingelly	3.06	5.53	2.77
17	Coconut	4.36	N.A	N.A

N.A denotes Not Available

Maize was the predominant crop grown and occupies 19.31 per cent of the gross cropped area in Salem district followed by Sugarcane (6.713 per cent), Mango (2.38 per cent), Onion (0.52 per cent) and Coconut (8.02 per cent). As these five crops accounted for more than 85 per cent of the gross cropped area, they need to be given focused attention for further development in the future. However, the estimated Compound Growth Rate of various crops grown in Salem district would reveal that crops like mango, sugarcane, cotton, coconut and Bhendi had a positive CGR of more than one per cent per annum. Therefore, the commercial / horticultural crops like fruits and vegetables are also to be covered under larger area.

As could be seen from Table 3.2, the area of the selected potential crops like paddy, cholam, groundnut, tapioca, gingelly, tapioca, onion, brinjal and coconut have been projected to decline in 2022-23 owing to their negative annual compound growth rates except maize, sugarcane, mango, coconutand cotton. The production of maize and sugarcane has been projected to increase due to its positive growth rate. Further, the CGR of productivity of paddy, tapioca and sugarcane also have shown on decline trend during the period. In view of all, planned efforts are essential to sustain the current area. Also, we are in a position to increase the production and productivity within the available land area. Hence, the triennium average ending 2014-15 for the existing land area is taken for calculating production and productivity of the major potential crops identified for 2022-23.

Using the secondary data on area, production and yield of the selected crops, viz., paddy, Maize, Ground Nut, Tapioca, Cholam, Cotton, Coconut and Sugarcane the projected yield and production for these crops for the year 2022-23 were estimated and the results are discussed in the following section. The annual growth rates of areas for the period between 1996-97 and 2010-11 were negative for the selected major crops like paddy (-0.006 per cent), Ground Nut (-0.7.245 per cent), Tapioca (1.207 per cent), and Cholam (1.643 per cent) and it was positive only in case of cotton (3.721 per cent) and Sugarcane (0.7 per cent). Therefore, planned efforts are utmost necessary to sustain the areas under these crops so as to enhance the agricultural production by means of raising the productivities of these crops. The yield gaps for these selected crops were much wider Therefore; the best option for raising the production is to take efforts to bridge the existing yield gaps in a situation where the scope for increasing the area under the crops is limited. Moreover, as the Salem district the existing cropped area is gradually being converted into real estates. Hence, it would be a great task even to sustain the existing net sown area of the district. However, efforts are required to sustain the present net sown area of the district, as this district has a very good locational advantage of production and supply of food grains, vegetables, fruits, flowers, and other value – added agricultural commodities required to meet the growing demands of the population of the city.

In view of the above reasons, projection for rising the productivity of the selected crops alone was resorted to assess the estimated yield and production for the period from 2011-12 to 2022-23 and the results are discussed below. Projection was made within the existing land area of the potential crops.

3.2 Projected Area, Production and Yield of the Selected Crops

The major potential commodities like Paddy, Maize, Sugarcane, Groundnut, Tapioca, Cholam, Cotton and Coconut were identified for Salem District. For the identified potential crops area, production and yield were projected using CGR for the years 2017-18 and 2022-23 and the results are presented in Table.3.3.

Table 3.3 Projected area, production and yield based for the major potential crops identified

Description	Paddy			Maize			Cholam			Groundnut		
	Area	Pdn.	Ydl	Area	Pdn.	Ydl	Area	Pdn.	Ydl	Area	Pdn.	Ydl
Compound Growth Rate (%)	-0.006	0.940	0.94	16.984	31.569	12.46	-1.643	-2.549	-0.920	-7.245	-3.766	3.752
Triennium Average ending	28474	126523	4440	27814	147686	5253	19237	16749	874	21204	43629	2072
2012-13	26684	110570	4143	37801	219099	5796	15540	12234	787	17663	34205	1937
2013-14	26682	111609	4183	44221	288266	6519	15285	11922	780	16383	32917	2009
2014-15	26681	112658	4222	51732	379269	7332	15034	11618	773	15196	31677	2085
2015-16	26679	113717	4262	60518	499000	8246	14787	11322	766	14095	30484	2163

Table 3.3 (Contd…)

Description	Coconut			Gingelly			Sugarcane			Tapioca		
	Area	Pdn.	Ydl	Area	Pdn.	Ydl	Area	Pdn.	Ydl	Area	Pdn.	Ydl
Compound Growth Rate (%)	2.585	5.093*	2.349*	-6.668	-8.389	-1.844	6.413	5.002	-1.354	-1.207	-0.050	1.172
Triennium Average ending	14393	1982	13779	3418	2374	700	11951	1151890	96	19897	736884	37878
2012-13	15144	2252	14791	1760	1141	648	6179	1250996	90	21388	811806	37956
2013-14	15535	2367	15138	1642	1045	636	6179	1313566	89	21130	811403	38401
2014-15	15937	2487	15494	1533	957	625	6179	1379265	88	20875	811000	38851
2015-16	16349	2614	15858	1431	877	613	6179	1448251	86	20623	810597	39306

Table 3.3 (Contd…)

Description	Mango			Onion			Brinjal			Lady's Finger		
	Area	Pdn.	Ydl	Area	Pdn.	Ydl	Area	Pdn.	Ydl	Area	Pdn.	Ydl
Compound Growth Rate (%)	4.652	5.182	0.506	-5.290	-1.502	4.000	-0.917	-3.791	-2.901	0.418	1.207	0.786
Triennium Average ending	4243	15568	3842	929	9570	10126	1054	7198	6480	1198	8334	7078
2012-13	3874	14594	3767	454	4977	10968	686	4277	6234	656	4571	6969
2013-14	4054	15350	3786	430	4902	11407	680	4115	6053	658	4626	7024
2014-15	4243	16146	3805	407	4828	11863	674	3959	5877	661	4682	7079
2015-16	4440	16982	3825	385	4756	12338	667	3809	5707	664	4738	7135

Table 3.3 (Contd…)

Description	Tomato			Cotton		
	Area	Production	Yield	Area	Production	Yield
Compound Growth Rate (%)	-4.054	-3.907	0.162	3.721	8.843	5.208
Triennium Average ending	3109	26318	8451	14969	36961	424
2012-13	2675	22204	8308	16505	45630	495
2013-14	2566	21337	8321	17119	49665	521
2014-15	2462	20503	8335	17756	54056	548
2015-16	2363	19702	8348	18417	58836	576

3.2.1 Paddy

Samba is the major season for paddy in the district, which has 64 per cent of the total area under paddy followed by *Sornavari* (25 per cent) and *Navarai* (11 per cent). The maximum yield recorded in the crop cutting experiment was considered to assess the potential yield for paddy varieties like ADT45 and ASD18 grown in *Sornavari* and *Navarai* seasons. However, as CO 43 and White Ponni grown during Samba season, its average yield as given in Crop Production Guide, 2012, TNAU, Coimbatore has been considered to be its potential yield. These yield gaps in the three seasons could be gradually bridged over the next 12 year period, i.e., from 2014-15 to 2022-23 as indicated in Table 15. Extension machinery needs to be strengthened to bridge the yield gap such that the yield is raised annually at the rate of 4.12 per cent (Table 3.5). The bridging up of the yield gap would result in the gradual increase in paddy production from 1.24 lakh tonnes in 2014-11 to 1.57 lakh tonnes in 2022-23 accounting for an increase of 26 per cent.

Table 3.4 Existing and Projected Yield and Production of Paddy

Year	Season			Total
	Kar / Kuruvai / Sornavari (Apr-July)	Samba/ Taladi/ Pishanam (Aug-Nov)	Navarai/ Kodai (Dec-Mar)	
Area (Ha)				
2008-09	7806	19749	2374	29929
2009-10	7858	13963	2561	24382
2010-11	5952	22727	4617	33296
Triennium average ending 2010-11**	7205	18813	3184	29202
Projected area for 2022-23	7205	18813	3184	29202
% to total	24.67	64.42	10.9	100.00
Varieties	ADT 45, ADT 36	White Ponni, Co 43	ADT 36, ASD 18	-
Maximum yield as per Crop Cutting Experiment (Kgs/Ha)	5780	5320	5100	5400
Average yield for Triennium average ending 2010-11 (Kgs/Ha)**	3708	4573	3794	4025
Yield Gap (Kgs/Ha)	2072	747	1306	1375
Projected Production for 2022-23 (tonnes)*	41645	100085	16238	157691
Production for Triennium average ending 2010-11 (tonnes)**	26685	85935	12254	124874
Percentage of increase in production over 2010-11	56.06	16.46	32.51	26.28

**Based on Crop Production Guide.*

*** Source: Season and Crop Report of 2008-09, 2009-10 and 2010-11.*

Table 3.5 Projected Increase in Yield and Production of Paddy from 2011-12 to 2022-23

Year	Yield (Kgs per ha)				Production (Tonnes)			
	Kar / Kuruvai / Somavari (Apr-July)	Samba/ Taladi/ Pishanam (Aug-Nov)	Navarai/ Kodai (Dec-Mar)	Total	Kar / Kuruvai / Somavari (Apr-July)	Samba/ Taladi/ Pishanam (Aug-Nov)	Navarai/ Kodai (Dec-Mar)	Total
Triennium average ending 2010-11	3708	4275	3794	4573	26685	85935	12254	124874
2011-12	3880	4446	3853	4820	27931	87114	12586	127608
2012-13	4053	4617	3912	5067	29177	88293	12918	130342
2013-14	4226	4788	3971	5314	30423	89472	13250	133076
2014-15	4399	4959	4030	5561	31669	90651	13582	135810
2015-16	4572	5130	4089	5808	32915	91830	13914	138544
2016-17	4745	5301	4148	6055	34161	93009	14246	141278
2017-18	4918	5472	4207	6302	35407	94188	14578	144012
2018-19	5091	5643	4266	6549	36653	95367	14910	146746
2019-20	5264	5814	4325	6796	37899	96546	15242	149480
2020-21	5437	5985	4384	7043	39145	97725	15574	152214
2021-22	5610	6156	4443	7290	40391	98904	15906	154948
2022-23	5782	6328	4503	7536	41645	100085	16238	157691
Required Growth Rate (%)	**3.67**	**3.24**	**1.42**	**4.12**	**3.68**	**1.26**	**2.33**	**1.94**

3.2.2 Maize

Maize is one of the major cereal crop being grown in Salem district and its area is increasing in recent years due to increase in profitability and demand for the starch and poultry feed industries. The production and productivity of maize could be increased mainly by way of using hybrid seeds. Maize area in Salem district is accounting for 8.9 per cent of the total area. Major cultivars grown are CO1, COH (M) 4.

Table 3.6 Existing and Projected Yield and Production of Maize

Year	**Total**
Area (Ha)	
2008-09	33410
2009-10	24632
2010-11	24143
Triennium average ending 2010-11*	27395
Projected area for 2022-23	27395
% to total	8.9
Varieties	CO1, COH(M)4
Maximum yield as per Crop Cutting Experiment (Kgs/Ha)	5269
Average yield for Triennium average ending 2010-11 (Kgs/Ha)*	4303
Year	**Total**
Yield Gap (Kgs/Ha)	966
Projected Production for 2022-23 (tonnes)	144344
Production for Triennium average ending 2010-11 (tonnes)*	113605
Percentage of increase in production over 2010-11	27.05

** Based on Crop Production Guide.*

*** Source: Season and Crop Reports of 2008-09, 2009-10 and 2010-11.*

As indicated by the farmers, CO1 has more yield potential and the same is suggested for bridging the yield gap in the next 12 year period. Table 3.7 indicates that the required annual growth rate in the productivity of Maize during 2011-12 to 2022-23 is two per cent. In such an effort of bridging the yield gap, the production could be raised from 1.13 lakh tonnes (2010-11) to 1.44 lakh tonnes (2022 - 23) accounting for an increase of 27 per cent (Table 3.7)

Table 3.7 Projected Increase in Yield and Production of Maize from 2011-12 to 2022-23

Year	**Yield (Kg per ha)**	**Production (Tonnes)**
Triennium average ending 2010-11	4303	113605
2011-12	4383	116166
2012-13	4463	118727
2013-14	4543	121288
2014-15	4623	123849
2015-16	4703	126410
2016-17	4783	128971

Year	Yield (Kg per ha)	Production (Tonnes)
2017-18	4863	131532
2018-19	4943	134093
2019-20	5023	136654
2020-21	5103	139215
2021-22	5183	141776
2022-23	5269	144344
Required Growth Rate (%)	**1.68**	**1.99**

3.2.3 Sugarcane

In Salem district, sugarcane is grown in an area of 11696 ha and the canes are supplied to the sugar mills. Ratoon crop accounts for a larger area of 40 per cent. Major varieties grown in the district are CoC 86071 and CoC 86032. The yield gap estimated was 14 tonnes /ha and this gap could be bridged as indicated in Table 3.8. The annual growth rate required to raise the yield from 94 tonnes per ha in 2010-11 to 128 tonnes per ha in 2022-23 which is estimated at 2.54 per cent. The increase in production by way of bridging this yield gap, from 1.09 lakh tonnes (2010-11) to 1.49 lakh tonnes (2022-23) accounts for 36 per cent.

Table 3.8 Existing and Projected Yield and Production of Sugarcane

Year	Season		
	Planted	**Ratoon**	**Total**
Area (Ha)			
2008-09	6779	4674	11453
2009-10	6713	4583	11296
2010-11	7520	4819	12339
Triennium average ending 2010-11*	7004	4692	11696
Projected area for 2022-23	7004	4692	11696
% to total	59.88	40.11	100.00
Varieties	COC 86071 and CoC 86032	COC 86071 and CoC 86032	
Maximum potential yield (tonnes/Ha)	113.0	103.0	108.0
Average yield for Triennium average ending 2010-11 (tonnes/Ha)*	93.6	93.6	93.6
Yield Gap (tonnes/Ha)	19.4	9.4	14.4
Projected Production for 2022-23 (tonnes)	948545	548543	1497088

Year	Season		
	Planted	Ratoon	Total
Production for Triennium average ending 2010-11 (tonnes)*	749716	349712	1099428
Percentage of increase in production over 2010-11	26.52	56.85	36.16

** Source: Season and Crop Reports of 2008-09, 2009-10 and 2010-11.*

Table 3.9 Projected Increase in Yield and Production of Sugarcane from 2011-12 to 2022-23

Year	Yield (tonnes per ha)	Production (Tonnes)
Triennium average ending 2010-11	94	1099428
2011-12	97	1132566
2012-13	100	1165704
2013-14	102	1198842
2014-15	105	1231980
2015-16	108	1265118
2016-17	111	1298256
2017-18	114	1331394
2018-19	116	1364532
2019-20	119	1397670
2020-21	122	1430808
2021-22	125	1463946
2022-23	128	1497088
Required Growth Rate (%)	**2.54**	**2.56**

3.2.4 Groundnut

Groundnut is a major oilseed crop grown in Salem district and accounting for 8.07 per cent of the total area. It is grown under kharif as well as Rabi seasons. Major varieties grown are TMV-7, CO3, VRI 3. Table 3.10 indicates that the required annual growth rate in the productivity of ground nut during 2011-12 to 2022-23 is 11 per cent. In such an effort of bridging the yield gap, the production could be raised from 40010 tonnes (2010-11) to 190875 tonnes (2022-23) accounting for an increase of 377 per cent.

Table 3.10 Existing and Projected Yield and Production of Ground nut

Year	Total
Area (Ha)	
2008-09	25547
2009-10	21939
2010-11	21900
Triennium average ending 2010-11*	23128
Projected area for 2022-23	23128

Year	Total
% to total	8.07
Varieties	TMV- 7,Co 3,VRI 3
Maximum yield as per Crop Cutting	2353
Average yield for Triennium average ending	1743
Yield Gap (Kgs/Ha)	610
Projected Production for 2022-23 (tonnes)	190875
Production for Triennium average ending	40010
Percentage of increase in production over	377.06

** Source: Season and Crop Reports of 2008-09, 2009-10 and 2010-11.*

Table 3.11 Projected Increase in Yield and Production of Ground nut from 2011-12 to 2022-23

Year	Yield (Kgs per ha)	Production (Tonnes)
Triennium average ending 2010-11	1743	40010
2011-12	2285	52582
2012-13	2827	65154
2013-14	3369	77726
2014-15	3911	90298
2015-16	4453	102870
2016-17	4995	115442
2017-18	5537	128014
2018-19	6079	140586
2019-20	6621	153158
2020-21	7163	165730
2021-22	7705	178302
2022-23	8253	190875
Required Growth Rate (%)	**11.87**	**11.92**

3.2.5 Tapioca

Tapioca is an important tuber crop and industrial crop of Tamil Nadu occupies 7.20% of the total area. Tapioca is mainly cultivated for the production of sago and starch. More than 600 sago and starch industries are functioning in Salem district. The major varieties are Mulluvaadi H- 226 and Kunguma rose. The Triennium average ending 2010-11 was 22833 ha. The yield gap is 7.7t/ha.

Table 3.12 Existing and Projected Yield and Production of Tapioca

Year	Total
Area (Ha)	
2008-09	25891
2009-10	23057
2010-11	19551
Triennium average ending 2010-11*	22833
Projected area for 2022-23	22833
% to total	7.20

Year	Total
Varieties	H- 226, Kunguma rose
Maximum yield as per Crop Cutting Experiment (Kgs/Ha)	38240
Average yield for Triennium average ending 2010-11 (Kgs/Ha)*	30480
Yield Gap (Kgs/Ha)	7760
Projected Production for 2022-23 (tonnes)	87313
Production for Triennium average ending 2010-11 (tonnes)*	72850
Percentage of increase in production over 2010-11	19.85

** Source: Season and Crop Reports of 2008-09, 2009-10 and 2010-11*

Table 3.13 indicates that the required annual growth rate in the productivity of Tapioca during 2011-12 to 2022-23 is nearly two per cent. In such an effort of bridging the yield gap, the production could be raised from 72850 tonnes (2010-11) to 87313 tonnes (2022-23) accounting for an increase of 20 per cent.

Table 3.13 Projected Increase in Yield and Production of Tapioca from 2011-12 to 2022-23

Year	Yield (Kgs per ha)	Production (Tonnes)
Triennium average ending 2010-11	30480	72850
2011-12	31126	74055
2012-13	31772	75260
2013-14	32418	76465
Year	**Yield (Kgs per ha)**	**Production (Tonnes)**
2014-15	33064	77670
2015-16	33710	78875
2016-17	34356	80080
2017-18	35002	81285
2018-19	35648	82490
2019-20	36294	83695
2020-21	36940	84900
2021-22	37586	86105
2022-23	38240	87313
Required Growth Rate (%)	**1.88**	**1.50**

3.2.6 Cholam

Sorghum is an important food and fodder crop. Most varieties are drought and heat tolerant. The major area occupied in Salem district is about 7.6%. COH-4 is the major sorghum variety grown in Salem mainly for fodder purpose. The average yield gap is 709 kg/ha.

Table 3.14 Existing and Projected Yield and Production of Cholam

Year	Total
Area (Ha)	
22008-09	13724
2009-10	19613
2010-11	20702
Triennium average ending 2010-11*	18013
Projected area for 2022-23	18013
% to total	7.63
Varieties	COH -4
Maximum yield as per Crop Cutting Experiment (Kgs/Ha)	1562
Average yield for Triennium average ending 2010-11 (Kgs/Ha)*	853
Yield Gap (Kgs/Ha)	709
Projected Production for 2022-23 (tonnes)	28136
Production for Triennium average ending 2010-11 (tonnes)*	15267
Percentage of increase in production over 2010-11	84.29

** Source: Season and Crop Reports of 2008-09, 2009-10 and 2010-11*

Table 3.14 indicates that the required annual growth rate in the productivity of Cholam during 2011-12 to 2022-23 is five per cent. In such an effort of bridging the yield gap, the production could be raised from 15267 tonnes (2010-11) to 28136 tonnes (2022-23) accounting for an increase of 84 per cent (Table 3.15).

Table 3.15 Projected Increase in Yield and Production of Cholam from 2011-12 to 2022-23

Year	Yield (Kgs per ha)	Production (Tonnes)
Triennium average ending 2010-11	853	15267
2011-12	912	16339
2012-13	971	17411
2013-14	1030	18483
2014-15	1089	19555
2015-16	1148	20627
2016-17	1207	21699

2017-18	1266	22771
2018-19	1325	23843
2019-20	1384	24915
2020-21	1443	25987
2021-22	1502	27059
2022-23	1562	28136
Required Growth Rate (%)	**4.97**	**5.02**

3.2.7 Cotton

Cotton is an important commercial crop grown in Salem district in an area of 13984ha. Wherein different varieties and hybrids of cotton are grown. The yield gap is 1580 kg/ha.

Table 3.16 Existing and Projected Yield and Production of Cotton

Year	Total
Area (Ha)	
2008-09	14036
2009-10	13593
2010-11	14322
Triennium average ending 2010-11*	13984
Projected area for 2022-23	13984
% to total	5.28
Varieties	SRUTHI-1,MCU-5
Maximum yield as per Crop Cutting Experiment (Kgs/Ha)	3507
Average yield for Triennium average ending 2010-11 (Kgs/Ha)*	1927
Yield Gap (Kgs/Ha)	1580
Projected Production for 2022-23 (tonnes)	49042
Production for Triennium average ending 2010-11 (tonnes)*	32327
Percentage of increase in production over 2010-11	51.70

**Source: Season and Crop Reports of 2008-09, 2009-10 and 2010-11*

As indicated by the farmers SRUTHI- 1 has more yield potential and the same is suggested for bridging the yield gap in the next 12 year period. Table 3.17 indicates that the required annual growth rate in the productivity of cotton during 2011-12 to 2022-23 is five per cent. In such an effort of bridging the yield gap, the production could be raised from 32327 tonnes (2010-11) to 49042 tonnes (2022-23) accounting for an increase of 52 per cent.

Table 3.17 Projected Increase in Yield and Production of Cotton from 2011-12 to 2022-23

Year	Yield (Kg/ha)	Production (Tonnes)
Triennium average ending 2010-11	1927	32327
2011-12	2058	33720
2012-13	2189	35113
2013-14	2320	36506
2014-15	2451	37899
2015-16	2582	39292
2016-17	2713	40685
2017-18	2844	42078
2018-19	2975	43471
2019-20	3106	44864
2020-21	3237	46257
2021-22	3368	47650
2022-23	3507	49042
Required Growth Rate (%)	**4.91**	**3.45**

3.2.8 Coconut

Coconut is an important plantation crop. Coconut provides food and employment opportunities and ensures livelihood security to a major segment of the rural population in Salem district. Besides, coconut is a perennial source for raw materials to a number of other industries like oil milling, coir and coir based industries. Coconut occupies 13983 ha area in Salem district and the major variety is VHC -2.

Table 3.18 Existing and Projected Yield and Production of Coconut

Year	Total
Area (Ha)	
2008-09	14036
2009-10	13593
2010-11	14322
Triennium average ending 2010-11*	13983
Projected area for 2022-23	13983
% to total	5.28
Varieties	VHC -2
Maximum yield as per Crop Cutting Experiment (Kgs/Ha)	4512

Average yield for Triennium average ending 2010-11 (Kgs/Ha)*	154
Yield Gap (Kgs/Ha)	4358
Projected Production for 2022-23 (tonnes)	5347
Production for Triennium average ending 2010-11 (tonnes)*	2150
Percentage of increase in production over 2010-11	148.6

* *Source: Season and Crop Reports of Tamil Nadu 2008-09, 2009-10 and 2010-11*

As indicated by the farmers VHC-2 has more yield potential and the same is suggested for bridging the yield gap in the next 12 year period. Table 3.18 indicates that the required annual growth rate in the productivity of coconut during 2011-12 to 2022-23 is 19 per cent. In such an effort of bridging the yield gap, the production could be raised from 8120 tonnes (2010-11) to 63091 tonnes (2022-23) accounting for an increase of 14.71 per cent.

Table 3.19 Projected Increase in Yield and Production of Coconut from 2011-12 to 2022-23

Year	Yield (Kg/ha)	Production (Tonnes)
Triennium average ending 2010-11	154	8120
2011-12	517	12700
2012-13	880	17280
2013-14	1243	21860
2014-15	1606	26440
2015-16	1969	31020
2016-17	2332	35600
2017-18	2695	40180
2018-19	3058	44760
2019-20	3421	49340
2020-21	3784	53920
2021-22	4147	58500
2022-23	4512	63091
Required Growth Rate (%)	**19.44**	**14.71**

* *Source: Season and Crop Reports of Tamil Nadu 2008-09, 2009-10 and 2010-11*

The projected increase in the yield and production of the selected crops during the period from 2011-12 to 2022-23 are given in Table 3.19. Within the available land area we are in a position to increase the yield and production. The percentage increase in yield of the selected crops were ranging from 22.44%to 96.58% and the production 19.85% to 84.29%. Hence lot of scope to increase the production and yield of major

commodities in Salem district. The Projected area, production and productivity were also given in the fig. (5, 6, 7)

3.3 Yield Gap Analysis

In order to enhance the productivity of selected crops, information pertaining ruling varieties, their average yield, potential yield, progressive farmer's yield etc., were collected from the office of the Joint Director of Agriculture, Salem and KrishiVigyan Kendra, Sandhiyur. From this information, yield gaps were analyzed and it is given in Table 3.20. Yield Gap is the difference between the progressive farmer's yield and average farm yield which explains the gap due to soil and climatic factors, crop management factors, technologies available, cultivation practices etc.

Table 3.20 Yield Gap of the Identified Potential Crops (Kg/ha)

Crop	Variety	ART / Potential yield	Crop cutting yield / progressive farmer's yield (A)	Average farm yield (B)	Yield gap (A-B)
Paddy	ADT 45, ADT 36	5817	5780	3708	2072
	White Ponni, Co 43	5900	5320	4573	747
	ADT 36, ASD 18	6000	5100	3794	1306
Maize	CO1, COH(M)4	5694	5269	4303	966
Sugarcane	COC 86071, COC 86032	130660	108000	93600	14400
Groundnut	TMV-7,Co 3, VRI 3	3533	2353	1743	610
Tapioca	H- 226, Kunguma rose	40250	38240	30480	7760
Cholam	COH -4	2584	1562	853	709
Cotton	SRUTHI- 1	2500	3507	1927	1580
Coconut	VHC -2	4753	4512	154	4358

Regarding the yield gap for the different varieties of paddy ranging from 747 to 2072 kg/ha. In tapioca the yield gap for major varieties is 7.7 t/ha. Likewise, the yield gap is given in Table 3.20. Hence, to bridge the gap stakeholders meeting was organized and discussed the problems in production, marketing of each potential crop and strategies were formulated during the meeting (Chapter 8). The yield gap for major potential crops was shown in Fig.6.

Fig. 6 Yield Gap of the Identified Potential Crops

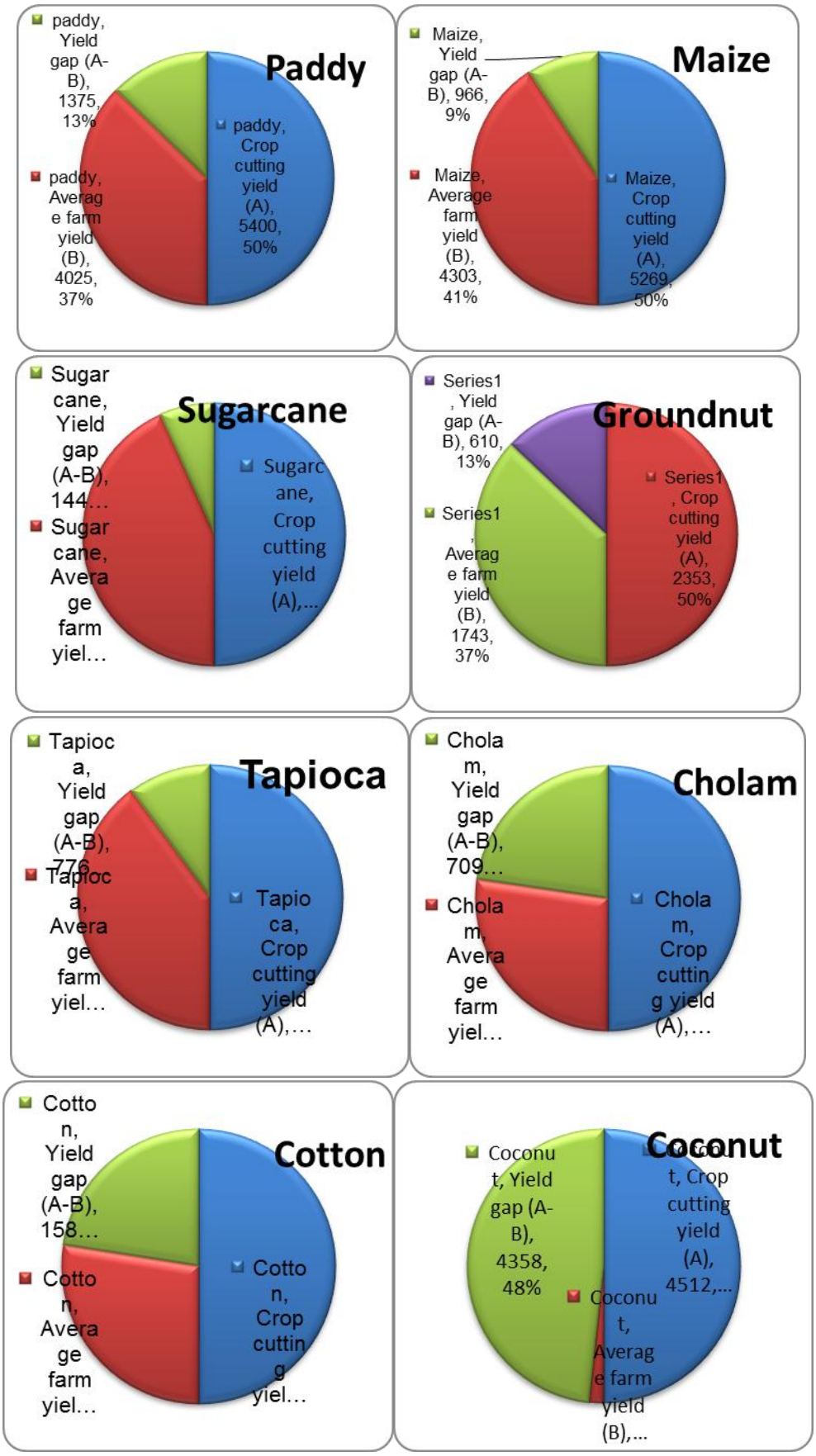

Table 3.21 Milk yield gaps of different animals in the blocks

Blocks	Milk yield	Cows		Buffalo	
		Local	Cross breed	Local	Cross breed
B1	Potential	6.00	18	5	
	Actual	5	15	4	
	Reason for low yield	High cost of concentrate feed, low grazing area		Low grazing area, decreasing buffalo population	
B2	Potential	4	15	3	
	Actual	2.5	12	2	
	Reason for low yield	Fodder scarcity		Low grazing area	
B3	Potential	5	15	4	
	Actual	4	12	3	
	Reason for low yield	High price of feed raw materials, scarcity of fodder		Low grazing area	
B4	Potential	5	12	4	
	Actual	4	10	3	
	Reason for low yield	Non-adoption of scientific management practices, high cost of concentrate feed		Low grazing area due to urbanization	
B5	Potential	4	12	4	
	Actual	3	10	3	
	Reason for low yield	Not following the scientific management, Animals depend only grazing		Low grazing area	
B6	Potential	3	15	4	
	Actual	2	12	2.5	
	Reason for low yield	Low rainfall leading to poor green and dry fodder availability, cost of feed ingredients is very high		Low grazing land	
B7	Potential	5	14	4	
	Actual	4	12	2	
	Reason for low yield	Fodder scarcity, High cost of concentrate feed		Low grazing area	
B8	Potential	5	16	4	
	Actual	3.5	12	3	
	Reason for low yield	Not following scientific method of dairy management		Low grazing area	

Blocks	Milk yield	Cows		Buffalo	
		Local	Cross breed	Local	Cross breed
B9	Potential	5	12	4	
	Actual	4	10	3	
	Reason for low yield	Not following scientific method of rearing, Low grazing area		Low grazing area	
B10	Potential	5	15	4	
	Actual	4	12	3	
	Reason for low yield	Not following scientific method of rearing, Fodder deficit area		Low grazing area	
B11	Potential	4	15	3	
	Actual	2.5	12	2	
	Reason for low yield	Low grazing area, Fodder scarcity		Low grazing area	
B12	Potential	5	16	4	
	Actual	3.5	12	3	
	Reason for low yield	Not following scientific method of dairy management		Nil	
B13	Potential	5	15	4	
	Actual	4	12	3	
	Reason for low yield	Not following scientific method of rearing, Fodder deficit area		Low grazing area	
B14	Potential	5	15	4	
	Actual	3.5	10	3	
	Reason for low yield	Nil		Nil	
B15	Potential	5	15	4	
	Actual	4	12	3	
	Reason for low yield	High cost of feed raw materials, scarcity of fodder		Low grazing area	
B16	Potential	5	18	5	
	Actual	18	15	4	
	Reason for low yield	Low rainfall leading to poor green and dry fodder availability, cost of feed ingredients is very high		Low grazing area	
B17	Potential	4	12	4	

Blocks	Milk yield	Cows		Buffalo	
		Local	Cross breed	Local	Cross breed
	Actual	3	10	3	
	Reason for low yield	Not following the scientific management, Animals dependent only grazing		Low grazing area	
B18	Potential	3	15	4	
	Actual	2	12	2.5	
	Reason for low yield	Low rainfall leading to poor green and dry fodder availability, cost of feed ingredients is very high		Low grazing area	
B19	Potential	5	12	4	
	Actual	12	10	3	
	Reason for low yield	Not following scientific methods of rearing, Low grazing area		Low grazing area	
B20	Potential	3	12	0	
	Actual	2	8	0	
	Reason for low yield	Not following scientific methods of rearing		Nil	

B1-Attur, B2 - Ayothiyapattinam; B3 -Gangavalli; B4 - Edapadi; B5-Kadayampatti; B6-Kolathur;B7 - Konganapuram; B8- Magudanchavadi; B9 - Mecheri; B10- Nangavalli; B11- Omalur; B12 - Panamarathuppatti; B13 - Pethanaikkanpalayam; B14- Salem; B15 - Sankari; B16-Thalaivasal; B17-Tharamangalam; B18- Valapadi; B19 - Veerapandi; B20- Yercaud

3.4 Technological Interventions and strategies to reduce the yield gaps

The adoption of suitable high yielding varieties and crop production technologies are the pre-requisites to boost the production. The strategy for increasing the production of potential crops in Salem district through the increase in productivity of those identified crops has already been discussed in the previous section. The productivities could be raised by growing the suitable high yielding varieties and as a consequence, the prevailing yield gap could be bridged. The specific features and the technologies for cultivating the selected high yielding varieties of the select crops are discussed below.

Table 3.22 Technological Interventions and strategies to reduce the yield gaps

1. AGRICULTURE

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Paddy mission	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Non availability of quality certified seeds.	Certified paddy seed production.	Supply of quality certified seeds.	Distribution of improved new variety for certified seed to paddy growing farmers and cluster demonstration.
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram,	Labour scarcity during peak period of cultivation.	Farm mechanization for drudgery reduction	Cluster demonstration of Paddy transplanter, seed drill, cono weeder and power weeder for drudgery reduction.	Distribution of machine transplanter, seed drill, conoweeder and power weeder at subsidized rate on cluster basis.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Mac. Choultry				
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low Productivity owing to pests & diseases and deterioration of soil fertility.	Integrated Nutrient Management and surveillance based Integrated Pest and disease Management	Adoption of INM and IPDM practice for higher productivity.	Supply of INM and IPDM kit for paddy farmer and training on INM, IPDM including rat control.
Millet mission					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram,	Lack of awareness on millet seed production.	Capacity building programme on millet production techniques	Cluster demonstration of small millet	Distribution of improved millets varieties for certified seed production and cluster demonstration with small millet and CO MH 6 maize hybrid.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Mac. Choultry				
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Non availability of quality certified seeds.	Certified Seed production techniques in Millet.	Supply of recently released high yielding varieties and CO MH 6 maize hybrid.	Distribution of improved millets varieties for certified seed production and cluster demonstration with small millet and CO MH 6 maize hybrid.
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low Productivity due to poor nutrition and deterioration of soil fertility.	Integrated. Nutrient Management.	Adoption of INM practice for higher productivity.	Supply of INM kit and capacity building programme on INM.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Non availability of processing facilities.	Value addition for higher remuneration	Supply of processing machineries.	Supply of processing machineries at subsidized rate for cluster demonstration.
Pulse mission					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Non availability of high yielding improved varieties.	Quality seed production of pulse crop	Introduction of newer pulse varieties for cluster demonstration and seed production	Supply of recently released pulse seeds for cluster demonstration and seed production

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low Productivity due to adoption of low yielding varieties.	Introduction of new pulse variety.	Introduction of quality certified seeds of recently released varieties for demonstration and seed production.	Supply of improved high yielding varieties
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low yield due to poor nutrition	Integrated nutrient management	Foliar nutrition with DAP/Pulse wonder STCR based nutrient management	Supply of DAP/ pulse wonder and INM kit
	Salem, Veerapandy, Panamarathupatti,	Low productivity due to pest and disease	Integrated pest and disease	Surveillance based Pest and disease	Distribution of IPDM kit on cluster basis.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry		management	management	
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Poor pulse production	Up scaling of pulse crop through FLD, OFT and cluster demonstration	Cultivation of pulse crop as bund crop	Distribution of high yielding pulse variety to the farmers.
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur,	Labour scarcity and population density	Farm mechanization	Supply of seed cum fertilizer drill.	Distribution of seed cum fertilizer drill for cluster demonstration.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				
Oil Seed mission					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Non availability of high yielding improved varieties.	Quality seed production of oil seed crop	Introduction of newer oil seed varieties for cluster demonstration and seed production	Supply of recently released oil seed crop for cluster demonstration and seed production
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur,	Low Productivity due to adoption of low yielding varieties.	Introduction of new oil seed varieties.	Introduction of quality certified seeds of recently released oil seed varieties for	Supply of improved high yielding oil seed varieties

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry			demonstration and seed production.	
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low yield due to poor nutrition	Integrated nutrient management	Supplementation of MN mixture and gypsum and STCR based fertilizer management Foliar nutrition.	Supply of location specific MN mixture, gypsum and INM kit Foliar nutrition with groundnut rich
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli,	Low productivity due to pest and disease	Integrated pest and disease management	Surveillance based Pest and disease management	Distribution of IPDM kit on cluster basis.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Labour scarcity and poor population density	Farm mechanization	Supply of seed cum fertilizer drill.	Distribution of seed cum fertilizer drill for cluster demonstration.
Green manuring					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli,	Low productivity due to low organic carbon and other major nutrients	Green manuring and green manure seed production	Enrichment of soil fertility through green manuring Certified seed production of green	Supply of green manure seeds for cluster demonstration and seed production.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry			manure	
Coconut					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low productivity due to aged plantation	Rejuvenation of existing coconut orchard	High yielding and drought resistant coconut saplings viz., Tall, TxD and DxT improved saplings	Supply of Coconut saplings viz., Tall, TxD and DxT improved saplings
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur,	Low yield due to poor nutrition	Integrated nutrient management	Root feeding Green manure trampling around the trunk and supply of MN mixture	Supply of INM kit

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Poor productivity due to coconut pests and diseases	Integrated pest and disease management	Surveillance based integrated Pests and disease management Supply of bio-control agents	Supply of IPDM kit Distribution of Pheromone traps for coconut Red Palm Weevil and Rhinoceros beetle
Sugarcane					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac.	Low productivity due to improper management practices	Precision farming	Cluster demonstration of precision farming practices	Drip fertigation Distribution of protray for sugarcane nursery Distribution of Sugarcane chip cutter.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Choultry				
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal,	Low yield due to poor nutrition	Integrated Nutrient Management	Supplementation of Micro nutrient and gypsum application	Distribution of Gypsum and Ferrous Sulphate
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konga.pura, Mac. Choultry	Low productivity owing to Pests and diseases	Surveillance based pests and disease management	Introduction of Trichogramma egg card for stem borer Prophylactic spray of fungicides Trash mulching	Distribution of Parasite Trichogramma Distribution of IPDM kit
Cotton					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam,	Low yield due to adoption of traditional variety/hybrid and poor crop management	Precision farming with Bt cotton	Cluster demonstration of precision farming practices with Bt cotton	Drip fertigation Supply of Bt cotton seeds

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Poor yield due to improper nutrition	Integrated nutrient management	Supplementation of micro nutrient STCR based fertilizer management	Distribution of location specific MN mixture an INM kit
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari,	Low productivity owing to Pests and diseases	Surveillance based pests and disease management	IPDM strategy for sucking pests and root rot	Supplementation of IPDM kit

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Idappady, Konganapuram, Mac. Choultry				
Parasitoid breeding station					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Timely availability and supply of parasitoids for effective pests management	Mass multiplication of parasitoid for effective controlling of pest.	Establishment of parasitoid Lab	Strengthening of Parasitoid breeding station
Integrated Farming System					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal,	Frequent crop failure and poor yield due to poor receipt of monsoon, drought and poor in soil	Integrated farming system	Inclusion of dairy, goatery, backyard poultry with crop components	Supply of improved breeds/birds, and fodder crops for higher remuneration

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	fertility		Year round fodder supply	
Organic Farming					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low productivity due to poor in soil fertility status.	Organic farming	Green manuring, Bulky organic manures, mulching, composting, bio pesticides.	Supply of green manure seeds and bio pesticides for cluster demonstration of organic farming.
Vermi Compost unit					
	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady,	Low productivity due to low in organic carbon.	Composting techniques	Vermicomposting	Supply of vermin bag/establishment of vermin composting unit.

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				

2. **HORTICULTURE**

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Tapioca	Sankari, Thalaivasal, P.N.Palayam, Attur, Gangavalli Konganapuram Idappady, Omalur, Ayothiyapattinam, Salem	Cassava Mosaic Disease, low tuber yield and starch content	Production and supply of elite planting materials of tapioca	Virus free and high yielding, starch content varieties	On farm trial, field demonstration and distribution of setts to the farmers
Vegetables	Attur Thalaivasal Gangavalli Ayodhyapattinam	Higher cost of inputs, excess utilisation of water and fertilizers, low yield	Precision farming in vegetables	Precision farming technologies *viz.,* chisel ploughing, community nursery/pro tray nursery, soil test based fertilizer application, drip fertigation	Distribution of drip fertigation system, protrays and water soluble fertilizers
Coconut		Age old coconut plantations, poor nut yield	Rejuvenation of old coconut plantation with T x D and D x T hybrids and proper nutrient and micronutrient management	Planting of T x D and D x T hybrids	Supply of T x D and D x T hybrids
Arecanut	Attur P.N.Palayam	Nut shedding, wilting of trees	Nutrient management	Soil test based fertilizer application and application	Supply of nutrients,

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
			and wilt management	of fungicides for control of wilt disease	micronutrients and fungicides
Turmeric	Attur Thalaivasal P.N.Palayam Ayodhiyapattinam	Less curcumin and poor rhizome yield	Planting of high rhizome yielding varieties	Selection of elite planting materials	On farm trial, field demonstration and distribution of rhizomes to the farmers
Shade net and green house	Attur Thalaivasal P.N.Palayam Ayodhiyapattinam	Low yield and seasonal production	Cultivation of vegetables under shade net and green house	Off season production and high yield	Subsidy for the establishment of green house and shade net house
Mulching sheet	Attur Thalaivasal P.N.Palayam Ayodhiyapattinam	Weed menace	Weed control for high yield	Black Polythene Mulching	Supply of mulching sheet at subsidiary rate
Organic farming	Attur Thalaivasal P.N.Palayam Panamarathupatti Ayodhiyapattinam	Pesticide residues in vegetables	Organic farming	Use of organics for the cultivation of crops	Supply of organic inputs on subsidiary rate
Modernized tapioca processing units	Attur	Low starch recovery	Advanced processing	Modernized starch units	Establishing the unit at tapioca

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
			machines for effective starch recovery		production hub for better price of the produce
Coconut and Arecanut processing units	P.N.Palayam	Wastage of nuts due to fungal infection	Dryers for hygienic post harvest management	Modernized coconut and areca nut units	Establishing the unit in the production hub will ensure better price to the growers of the area/district
Agri Business Centre	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Low market price due to interference of middleman	Establishment of Agri Business Centres	Fixation of minimum support price and forecasting of major agricultural commadities	Establishment of Agri Business Centres in all blocks

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Construction of RM Building, Transaction Shed & Rural Godown, Vazhapadi	Vazhapadi	Fluctuating market price due to interference of middleman	Establishment of RM Building, Transaction Shed & Rural Godown, Vazhapadi	Regulate price of major agricultural commadities	Establishment of RM Building, Transaction Shed & Rural Godown, Vazhapadi
AGMARK Laboratory	Salem	Formulation of standards and conduct physical and chemical analysis of agricultural and allied commodities.	Establishment of AGMARK Laboratory	To evolve/standardize methods of analysis/tests of agricultural and allied commodities and meat products. Formulation of specifications for new commodities for bringing under the purview of Agmark. Revision of specifications of various agricultural, allied products, meat products etc. periodically. Training to the personnel engaged in the analysis of various commodities under Agmark.	Establishment of AGMARK Laboratory

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
				To create awareness with regard to grading, standardization and quality of various agricultural and food products.	
Post Harvest Technology materials to farmers(75% subsidy) Plastic vegetable crates Tarpaulin (15m*15m) Moisture meter Dunnage (Metal 5ft*3ft) ElectronicBalance 100kg Drying yard (20m*20m) Drying yard (10m*10m) Goods vehicle (1.5 ton) Tapioca Chipper Tapioca starch extractor	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Post harvest damage and loss Low market price, improper Handling Infestation of storage pest and spoilage due to rainy season. Loss of food quality due to spoilage. Excess moisture will reduce the grain quality Market is far away from production point. Low price due to higher production. Low price for raw pulse grains	Handling of agricultural commodities. Reduce pest and post harvest damages and losses. Reduce pest and post harvest damages and losses. Reduce post harvest damages and losses. Goods vehicle for easy reach. Farmers can produce starch at village level	Utilization of plastic crates Tarpaulin and Moisture meter during harverting handling and easy to grading of commodities Provide dunnage for air circulation Providing Electronic Balance 100kg For accuracy Drying yards to be imparted to the farmers Introduction of Goods vehicle Introduction of Tapioca Chipper and	Distribution of of plastic crates Tarpaulin and Moisture meter Provide dunnage Providing Electronic Balance 100kg Drying yards Goods vehicle (1.5 ton) Small unit Tapioca Chipper and Tapioca starch

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Pulses Grading machine			Pulses Grading	Tapioca starch extractor. Introduction of Pulses Grading machine	extractor Pulses Grading machine
Infrastructure at village level Vegetable wholesale market complex including coldstorage Cold storage for vegetables and fruits 2MT to group Rural Storage godown 10 MT Ulavar santhai	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Vegetable wholesale market will attract big merchants and Cold storage will prolong keeping quality. Ulavar santhai will attract domestic consumers	Vegetable wholesale market complex including coldstorage Cold storage for vegetables and fruits 2MT to group Rural Storage godown 10 MT Ulavar santhai	Introduction of Vegetable wholesale market complex including coldstorage Cold storage for vegetables and fruits 2MT to group Rural Storage godown 10 MT Ulavar santhai	Vegetable wholesale market complex including coldstorage. Cold storage for vegetables and fruits 2MT to group. Rural Storage godown 10 MT. Ulavar santhai.
Regulated market	Ammampalayam, Attur	Elimination of unhealthy and unscrupulous practices reducing marketing charges.	Regulated markets	Regulated market It aims at the elimination of unhealthy and unscrupulous practices reducing marketing charges and providing facilities to producers and sellers in the market.	Establishment of Regulated market
Agro Processing Implements to Farmers	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady,	Value addition to agriculture	Popularization of Turmeric Polisher	Popularization of Turmeric Polisher Banana vacuum packaging	Introduction of Turmeric Polisher Banana vacuum

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Turmeric Polisher Banana vacuum packaging machine Mechanical Thresher for black pepper Peelar cum washer for white pepper Pulper cum washer for coffee Solar Drier Coconut climber	Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	commodities. In adequate labour at village level	Banana vacuum packaging machine Mechanical Thresher for black pepper Peelar cum washer for white pepper Pulper cum washer for coffee Solar Drier Coconut climber	Mechanical Thresher for black pepper Peelar cum washer and thresher for white pepper Pulper cum washer for coffee Solar Drier Coconut climber	packaging machine Mechanical Thresher for black pepper Peelar cum washer for white pepper Distribuition of threshers for white pepper Pulper cum washer for coffee Solar Drier Coconut climber
Training and to farmers Post harvest technology training to farmers Value Addition Training training to farmers Packaging Materials and Methods technology training to farmers Export Awareness and Procedures-	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Post harvest loss Low price due to dull appearance of produces. Lack of knowledge on export oppertunities	Enrich the farmers with Post harvest technology trainings Value Addition Training training to farmers Packaging Materials and Methods technology training to farmers	Post harvest technology trainings Value Addition Training training to farmers Packaging Materials and Methods technology training to farmers	Post harvest technology trainings Value Addition Training training to farmers Packaging Materials and Methods technology training to farmers

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Training to farmers					
Exposure visits Exposure visit to special market place outside district Exposure visit to special market place outside state	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari,	Lack of market and demand knowledge exposure	Exposure visit to special market place outside district Exposure visit to special market place outside state	Exposure visit to special market place outside district Exposure visit to special market place outside state	Plan for an Exposure visit to special market place outside district Exposure visit to special market place outside state.
Exhibition and publicity Farmer and Merchant mela Farmer Producer Organisation	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Lack of knowledge on market and demand and supply.	Organize Farmer and Merchant mela Farmer Producer Organisation	Arrange to conduct Farmer and Merchant mela Farmer Producer Organisation	Farmer and Merchant mela Farmer Producer Organisation

3. **AGRICULTURAL ENGINEERING**

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Compartmental bunding	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Soil erosion and loss of a and b horizon of the soil causing poor soil fertility	Implementation of compartmental bunding in erosion prone areas	Adoption of compartmental bunding	Establishment of compartmental bunding
Land levelling	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam,	Water logging causes poor crop stand leads to high yield loss due to poor land levelling	Implementation of land levelling	Adoption of land levelling	Establishment of land leveling

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				
Ground level reservoir Size 5.00 m x5.00 mx 1.50 m	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Loss of capillary water in bore well due to depletion of ground water	Implementation of ground level reservoir size 5.00 m x5.00 mx 1.50 m for recharging of ground water	Adoption of ground level reservoir	Establishment of Ground level reservoir Size 5.00 m x5.00 mx 1.50 m
Over head tank	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam,	Poor crop stand due to less availability of water during critical crop growth stage	Implementation of over head tank for supply of water during critical stages of crop growth	Adoption of over head tank	Establishment of Over head tank

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry				
Sub surface irrigation	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	High evaporation loss in surface drip irrigation causes loss to the crop during critical stages of crop growth	Popularization of sub surface irrigation	Adoption of sub surface irrigation	Establishment of Sub surface irrigation
Drying yard (10x10 m)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari,	Improper drying of agricultural produce below the 10 % moisture level results in heavy infestation of insect pests and fungal diseases causing storage losses upto 60%	Implementation of drying yard (10 x 10 m) in villages for sun drying of agricultural and horticultural produce	Adoption of drying yard (10x10 m)	Establishment of Drying yard (10x10 m)

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Idappady, Konganapuram, Mac. Choultry				
Gully protection wall	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Gully erosion leads to loss of vegetation and top soil	Protection or reduction of the damage from slope failures through gully protection wall	Construction of gully protection wall	Establishment of Gully protection wall
a. Minor check dam	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram,	Runoff rain water leads to gully erosion and loss of soil profile and soil degradation	Construction of minor check dam to check the runoff rain water	Construction of minor check dam	Establishment of Minor check dam

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
	Mac. Choultry				
b. Medium check dam	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Runoff of precipitation leads to gully erosion due to high water flow velocity	Construction of medium check dam to check the runoff rain water velocity	Construction of medium check dam	Establishment of Medium check dam
c. Major check dam	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Runoff rain water causes gully erosion due to speed of rain water	Construction of major check dam to check the runoff rain water velocity and settlement of sediments	Construction of major check dam	Establishment of Major check dam

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
d. Percolation pond	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Decrease in ground water leads to poor crop growth and causes salinity	Construction of percolation pond in drought affected villages to improve soil moisture, recharge shallow wells and reduce salinity	Construction of percolation pond	Establishment of Percolation pond
Renovation of percolation pond	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	The damaged percolation pond leads to loss of soil moisture	Renovation of percolation pond improves soil moisture, recharge shallow wells and reduce salinity	Renovation of percolation pond	Renovation of percolation pond

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Terrace support wall for hill areas	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Higher soil erosion and surface runoff in hill areas leads to loss soil fertility	Construction of terrace support wall in hill areas prevents surface runoff and soil erosion	Construction of terrace support wall for hill areas	Establishment of terrace support wall
e. Recharge shaft	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Decline in ground water leads to loss of crop growth and development	Construction of recharge shaft in water scarcity areas leads to storage of rain water and water quality improvement and declining ground water level	Construction of recharge shaft	Establishment of Recharge shaft

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
a. Rotavator	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Cloddy and untilled soil leads to poor germination of seeds and establishment of seedlings	Rotavator machine provides fine seed bed and retains soil moisture and increases soil porosity and aeration, which enhance germination and growth of crops.	Adoption of rotavator for soil preparation	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
b. Power tiller	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual labor and animal power produces poor quality seed bed which causes poor germination of seeds	Power tiller helps in preparation of seed bed and many other operations like intercultural, plant protection, harvesting, threshing, irrigation etc. Can be successfully accomplished by a power tiller.	Adoption of power tiller for soil preparation and intercultural operations	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
c. Power weeder four wheel drive (Mini tractor)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual weeding in laborious, time consuming and cumbersome Weed menace timely weeding	Power weeder helps in quick accomplishment of weeding operation with optimum cost	Adoption of power weeder for weeding operation	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
d. Tractor 50 h.p & above	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Animal power produces poor quality soil preparation leads to poor germination of crops	Tractor 50hp helps in soil preparation and other agricultural operations	Adoption of tractor of agricultural operations	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
e. Tractor trailor	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Transportation of agricultural produce is limited with animal power	Tractor trailer helps in better transportation of agriculture produce	Adoption of tractor trailer	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
f. Trailor mounted water tank	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Transportation of water to inaccessible areas leads to crop death	Trailor mounted water tank helps in supply of water to inaccessible areas	Adoption of tractor mounted water tank	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
g. Five tyne cultivator	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Animal drawn cultivator gives poor soil preparation leads to poor germination of crop	Tractor drawn five tyne cultivator gives fine tilth of soil and results in good germination of crop	Adoption of five tyne cultivator	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
h. 9 Tyne cultivator	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Animal drawn cultivator gives poor soil preparation leads to poor germination of crop	Tractor drawn five tyne cultivator gives fine tilth of soil and results in good germination of crop	Adoption of nine tyne cultivator	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
i) 1..Broad bed former	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Broad bed formation by manual labours takes time and ununiformity in broad bed size	Broad bed former by machine is highly economical	Adoption of broad bed forme	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
i.)2.Seed drill	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Line sowing of seeds through manual labour consumes lot of time	Sowing through seed drill highly cost effective and labour saving	Adoption of seed drill	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
i.) 3.Gauge wheel (1 pare)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Shallow sowing of seeds results in poor germination and poor crop stand	Gauge wheel helps a plow or planter that regulates the depth of penetration into the soil there by achieving good germination and uniform crop stand	Adoption of gauge wheel	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
j. Post hole digger	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Making hole by manual is ununiform and irregular in size and time consuming	Post hole digger form a much neater hole, with a well-defined circumference and time saving	Adoption of post hole digger	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
k. Trolley sprayer (tractor attached)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Spraying of weedicides and plant protection chemicals consumes more time	Trolley sprayer with tractor attachment covers large area in less span of time	Adoption of tralley sprayer (tractor attached)	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
l. Chaff cutter (1 H.P Motor attached)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Feeding cattle by chopping of greens in irregular size results in digestion problem and wastage of cattle feed	Chopping by using chaff cutter enhances easy digestion and quick cutting of green fodder without any wastage	Adoption of chaff cutter (1 h.p motor attached)	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
m. Chaff cutter (3 H.P Motor attached)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Feeding cattle by chopping of greens in irregular size results in digestion problem and wastage of cattle feed	Chopping by using chaff cutter enhances easy digestion and quick cutting of green fodder without any wastage	Adoption of chaff cutter (31 h.p motor attached)	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
n. Brush cutter	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Cleaning of bushes and weeds through manual consumes lot of time	Brush cutter helps in speed up of cleaning operation	Adoption of brush cutter	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
o. Power sprayer	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Spraying of plant protection chemicals for large vegetation using knapsack sprayer results in non reaching of chemicals to the targeted area and intended spot causing pest to build up	Power sprayer helps in reach of chemicals to the intended spots with quick span of time	Adoption of power sprayer	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
p. Battery sprayer	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Spraying of plant protection chemicals using knapsack sprayer is time consuming and involves human force for creating pressure and this kind of action hampers n inside large vegetation	Battery sprayer is highly useful in spraying plant protection chemicals without using human force	Adoption of battery sprayer	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
q. Baler	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	After harvest of the paddy crop, the straw remains in the field as much and cause hindrance for the next crop	Baler highly useful in packing of paddy straw neatly and highly useful for transportation	Adoption of baler in intensive paddy cultivating villages	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
r. Multi crop thresher	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Harvesting of crop produce using human labor consumes time, cumbersome process and highly uneconomical	Multi crop thresher involves speedy harvesting of multiple crops and highly economical	Adoption of multi crop thresher	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
s. Coconut climber	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual harvesting of coconut is highly labour and time consuming	Coconut climber useful for quick harvesting f coconuts and untrained persons can harvest without much struggle and highly safety	Adoption of coconut climber in coconut rich villages	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
w. Power weeder.	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Hand weeding consumes lot of time and money	Power weeder complete the weeding operation in time and highly economical	Adoption of power weeder	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
1. Solar motor for open well & Bore well	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Electric operated well motor often create problem in electricity paucity area and difficult to irrigate the crop	Solar powered well motor highly useful even in electricity non available area with high economic returns	Adoption of solar motor for open well & bore well	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
2. Solar drier bed	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Electric operated drier bed often create problem in electricity paucity area and difficult to dry the crop produces	Solar drier highly useful even in electricity non available area with high economic returns	Adoption of solar drier bed	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
1.Replacement of old pump sets	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Old pump sets causes large problems in irrigating the crop during critical stages of crop growth	Replacement of old pump sets with new one gives assurance for irrigation without causing any problem	Adoption of replacement of ld pump sets	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
1.Drip irrigation	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Flood irrigation of water causes lot of wastage and profuse weed growth	Drip irrigation highly economical in irrigating crop and fertigation can be done in highly precise way	Adoption of drip irrigation	Esatblishment of drip irrigation

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
2.Sprinkler irrigation	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Flood irrigation of water causes lot of wastage and profuse weed growth	Sprinkler irrigation consumes less water and saves the crop from extreme hot weather condition	Adoption of sprinkler irrigation	Establishment of sprinkler irrigation
Modern machinery demo	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	conventional machinery usage causes poor crop stand and low yield	Modern machinery demo helps in faster adoption of modern machineries in agriculture results in higher production	Adoption of modern machineries demo in villages	Demonstration of modern agricultural equipments

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Exposure visit (outside state)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Lack of awareness of improved technologies	Exposure visit to other state helps in expansion of knowledge and adoption of newer technologies in agriculture	Implementation of exposure visit	Organising exposure visit
Exposure visit (within state)	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Lack of knowledge and awareness on recent techniques	Exposure visit to other state helps in expansion of knowledge and adoption of newer technologies in agriculture	Implementation of exposure visit	Organising exposure visit

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Custom hiring centre	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Repaired machines in villages cause delay in land preparation and agriculture operations leads to loss of production and income	custom hiring centre helps in repairing of agriculture machineries and provides employment to rural youths	Creating custom hiring centre	Establishment of certain hiring center
Tamarind deseeder	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual deseeding of tamarind consume lot of time and labour	Tamarind deseeder helps in quick removal of tamarind seeds and consumes less time	Adoption of tamarind deseeder	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Boom sprayer	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Spraying of plant protection chemicals using knapsack sprayer consumes lot of time and involves more labour	boom sprayer helps in quick coverage of area and requires less labour	Utilisation of boom sprayer	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
Paddy transplanter	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual transplanting of paddy seedlings consumes high labour and time consuming	paddy transplanter helps in quick transplanting with correct depth and spacing and involves less labour	Adoption of paddy transplanter	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Cotton Plucker	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual picking of cotton consumes high labour and time consuming	cotton plucker quickly plucks the cotton with less labour	Adoption of cotton plucker	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
Coconut decorticator	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual decortication of coconut highly labourious and time consuming	coconut decorticator helps in quick removal of coconut and requires less labour	Adoption of coconut decorticator	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Castor Sheller	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Castor shelling using manual labour consumes lot of time and money	castor Sheller quickly shells the castor seeds and requires less labour	Adoption of castor sheller	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
Coconut dehukser power operated	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Manual dehusking of coconut highly labourious and time consuming	coconut dehusking helps in quick removal of coconut and requires less labour	Adoption of coconut dehusker power operated	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Coconut dehukser Manual	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Barren hand dehusking coconut is highly difficult	manual dehusker ease the operation in electricity non available areas	Adoption of coconut dehusker manual	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis
Coconut Shedder	Salem, Veerapandy, Panamarathupatti, Ayothiyapattinam, Valapady, Yercaud, P.N.Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalur, Tharamangalam, kadayampatti, Sankari, Idappady, Konganapuram, Mac. Choultry	Barren hand shedding coconut is highly difficult	coconut shedder ease the operation in time and involves less labour	Adoption of coconut shedder	Demonstration, supply of agricultural equipments at subsidized rate to the farmers and also on hiring basis

4. FISHERIES

Major crops & enterprises being practiced in the district	Implementing blocks	Prioritized problems in these crops/enterprise	Title of intervention	Technology options	Proposed Intervention
Fisheries	All 20 blocks in Salem district	• Less income from the agriculture • Less per capita income • Livelihood security	• Introduction of fisheries • Training on fish culture • Training on ornamental fish culture	• Establishment of multipurpose farm pond • Fish seed stocking • Water quality management, feeding method and method of manuring • Efficient and good practiced fish culture	• Distribution of fish seed @ 50% subsidy • Distribution of fish feed and manure @ 50% subsidy

5. ANIMAL HUSBANDRY

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
Animal loan	All 20 blocks in Salem District	Poor purchasing power of farmers to purchase higher yielding animal	Loan the nationalized Banks	Financial support to the farmers	To sanction the loan for farmers to purchase high yielding cross breedsthrough nationalized banks
Animal Health Insurance	All 20 blocks in Salem District	Financial loss due to sudden mortalities of animals because of outbreak at contagious disease and accident	Providing insurance Policy	Insurance	To provide insurance facility
Ultra sound scanner with accessories	All 20 blocks in Salem District	Problems in diagnose reproductive and gynecological, ovulation, ovarian cyst, early embryonic pregnancy, foreign body syndrome and abdominal diseases.	Diagnose diseases and disorders afflicting in livestock's	The services provided include health cover, disease, diagnosis, disease prevention and disease control	To accurately diagnose diseases and disorders afflicting large animals
Animals Nutritional status	All 20 blocks in Salem District	Repeat breeding due to nutritional disorder	To find out nutritional status of animals and problems in breeding and anoestrus	Infertility camps specially focus on the nutritional status of the animals. Estrus synchronization decurinating	Awareness programmes about the use of mineral mixture, balanced cattle feed and fodder and Estrus synchronization decurinating

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
Animal breeding	All 20 blocks in Salem District	Breeding problem in beef cattle, dairy cattle, goat and sheep's	Artificial insemination and estrus synchronization programs	Releasing Controlled Intravaginal drug Releasing device (CIDR) for artificial insemination	Use of conjunction with hormones to synchronize estrus in beef females
Fodder Maintenance	All 20 blocks in Salem District	Low fodder yield due to water shortage	Adaptation of Raingun to increase the fodder crops yield for animals with limited water resource.	Use limited irrigation source available with raingun to increase the productivity of fodder crops	To increase the fodder yield through Rain gun use with limited source of water facility
		Wastage of fodder by animals	Increase animal's digestion and productivity of milk yield	Chaff Cutter: Mechanical device for cutting straw or hay into small pieces before being mixed together with other forage and fed to horses and cattle.	To prevent rejection of fodder through chaff cutter
		Labor shortage	Mechanization through brush cutter	Brush cutter: For clearing grass, small bushes and undergrowth	To prevent the shortage of labor for cleaning grass and small bushes

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
Hygienic milk production	All 20 blocks in Salem District	➢ Availability of technical person ➢ Contamination	Adoption of milking machine	Use of milking machine for milking	To avoid contamination to udder during milk vender, easy and quick milking
Feeding	All 20 blocks in Salem District	Non availability of green fodder to animals High cost of concentrate feed Low grazing area	Establishing required fodder orchard	Increase the fodder yield through Azolla production unit, Silage making unit and Mineral mixture for cattle, concentrate fed on milking animals, Mineral licks for calves.	Provision of concentrate feed with 100% subsidy for maintaining cross bred animals and calves and Establishment feed storage units
Poultry Hatchery units	All 20 blocks in Salem District	Lack of hatching unit for desi birds	Providing hatching unit for desi birds	Providing incubator for desi bird hatching Cages for bird housing Encouraging desi bird rearing group activities by providing additional funds Periodical door step vaccination	Providing 75% subsidy to establishment hatching unit

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
Animal husbandry training	All 20 blocks in Salem District	Poor knowledge about latest technologies in Animal husbandry	Exposure visits and training	Provides hand on training through Audio visual aids to VAS & Farmers conduct through seminar	Training & exposure visit to inter & intra state
Backyard	All 20 blocks in Salem District	Mortality of animals due to disease outbreak	Providing drugs and disease management techniques	Providing drugs for deworming and ranikhet disease Periodical door step vaccination	100% subsidy for drugs to manage important disease
Animal housing	All 20 blocks in Salem District	Lack of facility for housing in animal	Establishment of animal housing	Providing housing facility for cows, goat and sheep's	Providing 75% subsidy for establishment of animal sheds
Clinic	All 20 blocks in Salem District	Problems in clinical examinations, aid medicine, common infectious diseases and its prevention, importance of vaccination and precaution during vaccination for animals	Establishment of Veterinary clinic and ADIV	Establishment of mobile veterinary clinic Advanced equipments and chemicals for ADIV, Salem.	To provide veterinary clinic and ADIV facility

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
Facilities	➢ Salem District ➢ All blocks in Salem district	➢ Management of cattle and buffalo (breeding, feeding, watering, housing management) green fodder and its cultivation schedule, importance of calf rearing and its method. Communication skills, How to improve attitude and behavior with milk Producer Farmers	To strengthen & spread out the advanced technique in milk business to the rural milk producers Awareness and training on scientific method of cattle management Awareness training to SHGs	➢ Training center at district level with training hall & accommodation facility for 50 farmers. ➢ Training center at divisional level (Building, Audio visual equipments for 100 farmers)	Providing Training center with accommodation facility including demo hall
Heifer calves	Kolathur	Unavailability of technologies for poor maintenance calves	Management of heifer calves	Distribution and adoption of heifer calves for small farmers	Loan & 50% subsidy
Fodder bank	All 20 blocks in Salem District	Shortage of quality of fodder seeds	Establishment fodder seed production farm	Establishment of fodder bank (fodder seeds including Cofs 29, fodder sorghum, fodder maize, fodder cowpea, velimasal and	Timely providing qualities of fodder seeds

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
				agathi).	
Seed Godown for seed processing Unit	Magudanchavadi	Lack of fodder seed processing unit facility at block level	Provides seed processing unit	Supply of quality seeds in time	Providing seed processing unit
Meat Processing Units	Attur	Un hygienic supply meat	Provides meat processing unit	Entrepreneurship development programme on hygienic meat production and value addition to the Women SHGs and Farmers	Provision of Meat processing unit
Animal Husbandry HRD	All blocks	Reluctant in animal husbandry	Introduction of awarding system Organising of Exhibition	Recommendation of State level award for best group up to 1 lakh and Exhibition.	Provision of awarding system and Exhibition
Pasture land	All blocks	Fodder deficit Low grazing land available Not following scientific management	Development of fodder cultivation in plains and hilly regions Bore wells for supplementary irrigation Development of wallowing ponds at village level	Development of fodder cultivation area at available meychal porampokku area	Provision of fodder cultivation area at available meychal porampokku area and Bore well introduction

Major crops & enterprises being practiced in the district	Implementing Blocks	Prioritized problems in these crops/ enterprises	Title of Intervention	Technology options	Proposed Intervention
Marketing	All blocks	Market intermediaries are more leading to less profit to the farmer in desi chicken rearing and milk production	Marketing linkages with big bazaars	Orientation for direct marketing Chanelling of milk marketing	To introduce marketing linkages To provide Milk production unit
Camp	All blocks	No proper method available	Money recovery camp	Conducting recovery camp	Introduction of recovery camp
Processing unit	All blocks	Unavailability of Milk processing unit centre at village level	Milk processing unit	To establish Milk processing unit	Establishment of milk processing unit at village level

CHAPTER IV

DISTRICT PLAN

4.1 AGRICULTURE

4.1.1 Promotion of paddy cultivation and strategies for increasing the productivity

Introduction

Paddy is considered to the important cereal crops which cover major part of the district of about 19745 ha. Though cropping area of paddy in the district is reducing year by year, the productivity of paddy is increased due to the adoption of new technologies and seed inputs. The technologies includes System of Rice Intensification (SRI), distribution of quality seeds with high yielding varieties, inputs like fungicides for seed treatment, biofertilizers (Azospirillum, Phosphobacteria, & VAM), bio control agents (*Trichoderma viride & Pseudomonas fluorscens*), soil amendments like gypsum, MN mixtures, green manure seeds and zinc sulphate. These technologies, programs and inputs can be made available to the farmer end by demonstrations, capacity building programmes like free input distribution schemes, trainings, demonstrations and exposure visits to the farmers and young entrepreneurs within the state and outside the state.

SRI is implemented in this district in order to get higher profitability due to lower cost of production by restricting the seed rate, optimum use of inputs and also by curtailing unnecessary use of human capital. SRI technology will be only successful when the key technologies like uniform leveling of field, proper spacing and timely weeding using suitable machineries and implements at appropriate are adopted. Having this in mind, different initiatives are being taken and the programmes have been formulated and operated during the 12th five year plan. In order to improve the productivity, various interventions are proposed for the 14th Planning Commission to adopt and to be funded under the National Agriculture Development Programme (NADP).

Objective

The major objectives of the proposed scheme is

Project components

- Distribution of certified seeds and incentives for certified seed production will be implemented in all blocks

- Incentives for paddy machine planting in Edapaddy, Sankakiri and Kolathur blocks
- Distribution of MN mixtures, biofertilizers, biocontrol agents, zincs sulphate and gypsum application in all blocks except Kolathur, Tharamangalam and Yercaud blocks.

Projects cost

The total cost of the project for 5 years will work out to Rs. **1066.75** lakhs.

Expected outcome

The implementation of the project will result in the enhancing production and productivity of paddy.

Implementing agency

The projects will be implemented by the Department of Agriculture.The evaluation will be done by the Director of Agriculture and Joint Director of Agriculture.

Table 4.1.Budget Requirement for Agriculture Sector in Paddy

(₹ in Lakhs)

Sl. No.	Interventions	Blocks Covered	Unit	Unit Cost	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Distribution of High Yielding Varieties	All Blocks	MT	0.35	239	83.48	239	83.65	240	83.83	240	83.83	239.5	83.83	1199	418.60
2	Distribution of Foundation	Salem and Thalivasal	MT	0.40	7	2.80	7	2.80	7	2.80	7	2.80	7	2.80	35	14.00
3	seed production - Certified class	All Blocks except Salem	MT	0.26	214	55.64	215	55.90	216	56.16	216	56.16	216	56.16	1074	280.02
4	Incentives for paddy machine planting	Edappadi, Kolathur and Sankagiri	Ha	0.10	225	22.50	225	22.50	225	22.50	225	22.50	225	22.50	1125	112.50
5	Distribution of MN mixture/ Copper Sulphate	Athur, Kolathur, P.N.Palayam and Valappadi	Ha	0.01	300	3.00	300	3.00	300	3.00	300	3.00	300	3.00	1250	15.00
6	Distribution of biofertilizer / PPFM / bioinputs / plant nutrient mobilizing bacteria	Athur, Kolathur, P.N.Palayam, Tharamangalam and Valappadi	Ha	0.00	350	1.05	350	1.05	350	1.05	350	1.05	350	1.05	1500	5.25
7	Distribution of Zinc sulphate (Soil application & foliar)	All Blocks except Tharamangalam and Yercaud	Ha.	0.01	990	9.90	995	9.95	995	9.95	1005	10.05	1005	10.05	5080	49.90
8	Gypsum application	All Blocks except Kolathur, Tharamangalam and Yercaud	Ha.	0.02	950	14.25	950	14.25	955	14.33	955	14.33	955	14.33	4905	71.48
9	Demonstration of drip irrigation	All Blocks	ha	1.00	20	20.00	20	20.00	20	20.00	20	20.00	20	20.00	100	100.00
	Total					**212.62**		**213.10**		**213.61**		**213.71**		**213.71**		**1066.75**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.2 Augmentation of millet production

Millets and the products made out of them are becoming popular among people. Millets are small-seeded grasses that grow well in dry zones as rain-fed crops under marginal conditions of soil fertility and moisture. They are also unique due to their short growing season. They can develop from planted seeds to mature, ready to harvest plants in as little as 65 days. However, farmers registered that the returns are less. To address this issue, various interventions are formulated to be adopted in the district during 14th Planning Commission Period. A total of 1.6 lakh hectares have been brought under cultivation in the district so far during the current crop season compared to 91,165 hectares covered last year. The major millet crops like maize, sorghum and cumbu are being grown in the district.

Sorghum has got the lion's share and it has been cultivated in 23,168 hectares followed by Maize in 8,760 hectares, Ragi in 1,888 hectares, Cumbu in 1,610 hectares and minor millets such as samai, thenai, varagu, kuthiravali in 1,597 hectares. The district has achieved 1.40 lakh tonnes of millets production so far against a target of 4.40 lakh tonnes. To increase the productivity of millets and to achieve the target of estimated production, various interventions are proposed for implementation in the districts.

The productivity is mainly depending on the increase in production of millets. The increase in the production involves the popularization of new technologies, distribution of seeds, mineral distribution, training and demonstrations. Distribution of quality seeds and seed production incentives and supply of inputs are some of the interventions can be implemented to increase the productivity of millets and promotion of value addition.

Project Goal

The main goal of implementation of the project is

- To distribute quality seeds and planting materials for major millets to ensure increased production and productivity.
- To supply inputs like biofertilizers, bio control agents, soil amendments etc.,
- Area expansion programmes in Ayothiyapattinam
- Biofertilizers will be distributed in blocks like Attur, Edappady, Konganapuram, P.N.Palayam, Sankari, Thalaivasal and Tharamangalam
- Millet seed distribution will be implemented in all blocks

Project area

The major millet growing blocks in the district is kolathur, Konganapuram, Mac.Choultry, Mecheri, Omalur, P.N. Palayam and Panamarthupatti.

Project Component's

Implementation of the schemes in form of distribution of quality seed and planting materials, agro inputs, agricultural machineries and implements and popularization of technologies through demo, training and exposure visits.

Project cost: The total cost of the project for 5 years will work out to ₹. **1190.81** lakhs

Implementing agency

The projects will be implemented by the Department of Agriculture.The evaluation will be done by the Director of Agriculture and Joint Director of Agriculture.

Table 4.2.Budget Requirement for Agriculture Sector in Millets

(₹ in lakhs)

Sl. No.	Components	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Millets													
1	Distribution on biofertilizer - Liquid / Carrier	P.N.Palayam and Valappadi	200	0.60	200	0.60	200	0.60	200	0.60	200	0.60	1000	3.00
2	Expansion of area under Minor Millets (Demo - supply of seed, seed treatment, MN mixture & Organic package)	Ayothiapattinam	20	1.00	20	1.00	25	1.25	25	1.25	30	1.50	120	6.00
3	Seed Production / Incentives for quality seed	All Blocks	45	28.35	45	28.35	46	28.98	46	28.98	46	28.98	228	143.64
4	Initiative for Nutritional Security through Intensive Millet Promotion (INSIMP)	All Block	300	12.00	300	12.00	300	12.00	300	12.00	300	12.00	1500	60.00
	Sorghum													
5	Distribution of biofertilizers - Liquid / Carrier	All Blocks except Nangavalli, Salem, Veerapandi and Yercaud	1460	4.38	1510	4.53	1510	4.53	1510	4.53	1510	4.53	7500	22.50
6	Distribution of MN mixture (12.5kg/ha)	All Blocks except Nangavalli, Veerapandi and Yercaud	1270	8.89	1350	9.45	1410	9.87	1460	10.22	1470	10.29	6960	48.72
	Maize													
7	Distribution of biofertilizers - Liquid / Carrier	Athur, Edappadi, Gangavalli,	900	2.70	900	2.70	900	2.70	900	2.70	900	2.70	4500	13.50

Sl. No.	Components	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
		Kongnapuram, Magundachavedi, P.N.Palayam, Sankagiri, Thalaivasal and Valappadi												
8	Distribution of herbicides	Kolathur and Mecheri	40	0.32	40	0.32	40	0.32	40	0.32	40	0.32	200	1.60
9	Seed Distribution Hybrid seeds for maize	Athur, Edappadi, Gangavalli, Kongnapuram, Magundachavedi, P.N.Palayam, Sankagiri, Thalaivasal and Valappadi	72	129.60	72	129.60	72	129.60	72	129.60	72	129.60	360	648.00
	Cumbu													
10	Seed Distribution	Kadyampatti, Omalur and Tharamangalam	3	1.33	3	1.33	3	1.33	3	1.33	3	1.33	12.5	6.63
	Ragi													
11	Demonstration (supply of seed, seed treatment, MN mixture & organic package)	Edappadi, Sankagiri and Yercaud	300	15.00	300	15.00	300	15.00	300	15.00	300	15.00	1500	75.00
12	Distribution of biofertilizers - Liquid / Carrier	All Blocks except Athur, Ayothiapattinam, Gangavalli, P.N.Palayam, Panamarathupatti, Salem, Thalaivasal,	850	2.55	850	2.55	850	2.55	850	2.55	850	2.55	4250	12.75

Sl. No.	Components	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
		Valapadi and Veerapandi												
13	Distribution of MN mixture	All Blocks except Athur, Ayothiapattinam, Gangavalli, P.N.Palayam, Panamarathupatti, Salem, Thalaivasal, Valapadi, Veerapandi and Yercaud	620	4.34	620	4.34	620	4.34	620	4.34	620	4.34	3100	21.70
14	Seed Distribution	All Blocks except athur, Thalaivasal and Veerapandi	38	24.88	38	25.21	39	25.61	39	25.67	40	26.40	194	127.78
	Total			**235.94**		**236.98**		**238.67**		**239.09**		**240.14**		**1190.81**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.3 Enhancing pulses production

Pulses are one of the most significant grains that being grown in many parts of the district. It possesses high nutritive value in terms of proteins, vitamins and minerals. Besides the nutrition value, the Government of Tamil Nadu is planning to substitute the value added products from pulses by introducing in the noon meal scheme. To feed the people of the country and to improve the livelihood through nutritional security, the production of the pulse crop has to improve through increasing the productivity of the pulses. The major pulse crop growing in the districts are black gram, green gram, red gram and Bengal gram.

Black gram is one of the important pulses grown in both Kharif and Rabi seasons. The other pulses like green gram, red gram are also cultivated in a larger area. Promotion of pulses in this district is the primary objective. The productivity of pulses can be increased by the adoption of improved practices, latest varieties, post-harvest techniques etc.The other pulses like green gram and red gram are also growing in a considerable area. The increase in production can be achieved through adoption of advanced techniques like supply of quality seeds, supply of inputs for pulse cultivation and bio control agents for disease management.

The project envisages enhancement of production, productivity of pulses, reduction in input costs and minimizing the post-harvest losses by way of following technological interventions.

Project goal

The objective of the project is to

- Increase the production of pulses by seed production and distribution of certified seeds
- Increasing the productivity of the pulse crop through supply of production inputs like soil amendments for soil reclamation, biofertilizers, bio control agents, micronutrient mixtures and plant protection chemicals.
- Promotion and yield improvement through DAP spray

Project area

The proposed interventions will be implemented in major pulse growing areas. Most of the pulses are grown in all the blocks

Project cost

The total cost of the project for 5 years will work out to ₹. **2759.83** lakhs

Expected outcome

The implementation of the project will increase the productivity of pulses and hence the nutritional security of the state and country is ensured.

Implementing agency

The projects will be implemented by the Department of Agriculture.The evaluation will be done by the Director of Agriculture and Joint Director of Agriculture.

Table 4.3 Budget Requirement for Agriculture Sector in Pulses

(₹ in Lakhs)

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Purchase of breeder seeds	MT	250000	B14	1	2.50	1	2.50	1	2.50	1	2.50	1	2.50	5	12.50
2	Production of Foundation/ Certified pulses seeds	MT	86000	All Blocks	242	207.69	250	214.57	255	218.87	255	218.87	255	218.87	1255	1078.87
3	Distribution of Certified Seeds	MT	100000	All Blocks	328	327.50	240	239.50	241	240.50	242	241.50	242	241.50	1291	1290.50
4	Distribution of Gypsum	ha	400	All Blocks except B1, B4, B7, B11, B12, B19, B20	1225	4.90	1250	5.00	1285	5.14	1285	5.14	1300	5.20	6345	25.38
5	Distribution of Biofertilizer/ Organic packages (Rhizobium + Phosphobacteria) - Liquid / Carrier	Ha	600	All Blocks	2265	13.59	2390	14.34	2410	14.46	2435	14.61	2485	14.91	11985	71.91
6	Distribution of Micro Nutrients(5 kgs/ Ha)	Ha	350	All Blocks except B1, B20	1280	4.48	1285	4.50	1295	4.53	1305	4.57	1310	4.59	6475	22.66
7	DAP Spray	Ha	700	All Blocks except B1, B20	3300	23.10	3300	23.10	3320	23.24	3345	23.42	3350	23.45	16615	116.31
8	Distribution of weedicide	Ha	1000	B2	80	0.80	80	0.80	80	0.80	90	0.90	90	0.90	420	4.20

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
9	Promotion of Redgram Transplantation for nursery preparation	Ha	5000	B4, B5, B9, B8, B10, B11, B15	550	27.50	550	27.50	550	27.50	550	27.50	550	27.50	2750	137.50
	Total					**612.06**		**531.81**		**537.54**		**539.00**		**539.42**		**2759.83**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.4 Increasing productivity of oil seeds

India is one of the major oilseeds grower and importer of edible oils. India's vegetable oil economy is world's fourth largest after USA, China & Brazil.The diverse agro-ecological conditions in the country are favourable for growing 9 annual oilseed crops, which include 7 edible oilseeds (groundnut, rapeseed & mustard, soybean, sunflower, sesame, safflower and niger) and two non-edible oilseeds (castor and linseed).Today these crops are cultivated on about 16.5 million hectares, with total production of 10 million tonnes. The oil content of the seed varies from 44 to 50 per cent, depending on the varieties and agronomic conditions. Groundnut oil is edible oil. It finds extensive use as a cooking medium both as refined oil and Vanaspati Ghee. It is also used in soap making, and manufacturing cosmetics and lubricants, olein, stearin and their salts. Kernels are also eaten raw, roasted or sweetened. They are rich in protein and vitamins A; Band some members of B2 group. The groundnut is particularly valued for its protein content (26%). On equal weight basis, groundnuts contain more protein than meat andabout two and a half times more than eggs. The above usage implies the importance of the crop on its increase in the area and productivity.

Groundnut is one of the principal economic crops of the world ranking 13th among the food crops and it has been accepted by Indians as a vegetable oil crop. The crop is distributed throughout the district except hilly blocks. The promotion of oil seed crops in the district would envisage assured income to the growers. The supply of critical inputs to thefarmers will help in improving the livelihood of the people.

Due to its prime importance in the district, the farmers are cultivating these crops as a rainfed crop. Though the crop is grown in larger area, the productivity of the crop is not up to the potential yield of the crop. Introduction of new varieties, supply of inputs including fertilizers and chemicals will increase the production and productivity.

Project Goal

The objective of the project is to increase the area of the oilseed crops and to improve the productivity of oil seeds.

Project components

The components of the projects include

- Production and distribution of certified and breeder seeds of high yielding varieties will be in all blocks except Yercaud

- Soil health management through application of gypsum, biofertilizers and bioinoculants in Kolathur block
- Production of certifies seeds will be carried out in Edappady block

Project cost

The total cost of the project for 5 years will work out to ₹ **2905.13** lakhs.

Implementing agency

The projects will be implemented by the Department of Agriculture.The evaluation will be done by the Director of Agriculture and Joint Director of Agriculture.

Table 4.4 Budget Requirement for Agriculture Sector in Oilseeds

(₹ in Lakhs)

Sl. No.	Components	Unit	Unit Cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	**OILSEEDS**															
1	Compact Block Demonstration - Groundnut	Ha	0.2	All blocks except B1, B3, B12, B13, B14 ,B16, B18, B20	340	68.00	340	68.00	340	68.00	350	70.00	350	70.00	1720	344.00
2	Microirrigation (Raingun / Microsprinkler)	Ha	0.55	All Blocks	25	13.75	35	19.25	50	27.50	45	24.75	50	27.50	205	112.75
3	Distribution of IPM kit	Nos.	0.1	All Blocks	1000	100.00	500	50.00	1500	150.00	1000	100.00	1000	100.00	5000	500.00
4	Growth regulator / DAP	Ha	0.005	All Blocks	150	0.75	100	0.50	150	0.75	100	0.50	150	0.75	650	3.25
	Ground nut															
5	Strengthening seed chain by certified seed production	Mt	0.73	All blocks except B20	179	130.67	179	130.67	180	131.40	180	131.40	182	132.86	900	657.00
6	Distribution of Certified seeds	Mt	0.84	All blocks except B20	182	152.88	182	152.88	182	152.88	184	154.56	184	154.56	914	767.76
7	Distribution of Seed Treatment Chemicals and Bioagents	Kg	0.0015	B6	50	0.08	50	0.08	50	0.08	50	0.08	50	0.08	250	0.38

Sl. No.	Components	Unit	Unit Cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	(T.Viridi)															
8	Application of Gypsum to Groundnut Crop	Ha	0.016	All blocks except B20	1345	21.52	1345	21.52	1345	21.52	1350	21.60	1350	21.60	6735	107.76
9	Distribution of Micro Nutrient Mixture	Ha	0.015	B16	100	1.50	100	1.50	100	1.50	100	1.50	100	1.50	500	7.50
10	Distribution of Biofertilizer	Ha	0.006	All blocks except B20	1590	9.54	1675	10.05	1675	10.05	1675	10.05	1675	10.05	8290	49.74
11	Distribution of Liquid Biofertilizer	Ha	0.006	All blocks except B2,B20	1465	8.79	1500	9.00	1500	9.00	1500	9.00	1500	9.00	7465	44.79
12	Distribution of Rhizobium/ PSB Culture	Ha	0.006	B4, B7, B8	150	0.90	150	0.90	150	0.90	150	0.90	150	0.90	750	4.50
13	Combined Nutrient Spray	Ha	0.006	B6	50	0.30	50	0.30	50	0.30	50	0.30	50	0.30	250	1.50
14	Seed Drill Sowing / Line sowing of Groundnut with Pulses as intercrop (hiring charges only)	Ha	0.03	B6, B10, B11, B17	600	18.00	600	18.00	600	18.00	600	18.00	600	18.00	3000	90.00
15	Seeddrill Sowing of Groundnut with Redgram as Intercrop	Ha	0.04	B1, B4, B6, B7, B8, B13, B19	900	36.00	900	36.00	900	36.00	900	36.00	900	36.00	4500	180.00
	SUNFLOWER															

Sl. No.	Components	Unit	Unit Cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
16	Production of Certified Seeds	Mt	0.5	B4	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	3	1.25
17	Distribution of certified seeds	Mt	0.57	B4	1	0.29	1	0.29	1	0.29	1	0.29	1	0.29	3	1.43
	GINGELLY															
18	Production of Certified Seeds	Mt	1.09	B6, B9, B10, B11	2	2.18	2	2.18	2	2.18	2	2.18	2	2.18	10	10.90
19	Distribution of certified seeds	Mt	1.25	B6, B9, B10, B11, B17	3	3.13	3	3.13	3	3.13	3	3.13	3	3.13	13	15.63
20	Distribution of Micro nutrients (Manganese sulphate/ Zinc sulphate)	Ha	0.004	B6, B9, B10, B11, B17	250	1.00	250	1.00	250	1.00	250	1.00	250	1.00	1250	5.00
	Total					**569.52**		**525.49**		**634.72**		**585.48**		**589.94**		**2905.13**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.5 Enhancement of Cotton production

Cotton is the most important fiber crop in India. It provides basic raw material (cotton fibre) to cotton textile industry. Its seed (binola) is used in vanaspati industry and can also be used as part of fodder for milch cattle to get better milk. The reduction in the area under cotton is mainly due to the increased cost of cultivation because of the high cost of labour and plant protection in the cultivation of cotton. Cotton is susceptible to many insects and pests. Though HYV seeds and hybrid seeds are available in the market for cultivation controlling of major pest and disease is cumber zone. Alternatively, production of cotton can be increased through varying cultivation practices that could achieve sustainable development.

Project Goal

The project aims at increasing the productivity of cotton

Project components

- Production and distribution of certified seeds and foundation seeds
- Distribution of inputs like fertilizers, bio inaculants and MN mixtures

Project area

The foundation and certified seed production will be done in Veerapandy block and Konganapuram block. Seeds will be distributed in Edappady, Konganapuram, Kolathur and Veerapandy block. Intercropping with pulses will be demonstrated in all blocks.

Implementing Agency

The project is implemented by the Department of Agriculture. The evaluation will be done by evaluation committee in year wise.

Project cost

The required project cost for implementation of these projects in next five years about **₹ 462.79 lakhs.**

Expected outcome

The outcome will be increase in area of the crop. The productivity can be enhanced through high yielding varieties and hi-tech interventions.

Table 4.5 Budget Requirement for Agriculture Sector in Cotton

(₹in lakhs)

Sl. No	Components	Unit	Unit Cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Distribution of biofertilizer	Ha	300	All Blocks except B2,B13,B14,B18,B20	800	2.40	800	2.40	800	2.40	800	2.40	800	2.40	4000	12.00
2	Distribution of MN Mixture	Ha	1000	B6	125	1.25	125	1.25	125	1.25	125	1.25	125	1.25	625	6.25
3	Distribution of Pheromone trap	No	6000	B5,B6,B9,B10,B11,B17	130	7.80	130	7.80	130	7.80	130	7.80	130	7.80	650	39.00
4	Intercropping with pulses	Ha	10000	All Blocks except B2,B13,B14,B19,B18,B20	550	55.00	550	55.00	550	55.00	550	55.00	550	55.00	2750	275.00
5	Foundation seed production	MT	111300	B18	1	1.11	1	1.11	1	1.11	1	1.11	1	1.11	5	5.57
6	Certified seed production	MT	107900	B7	0.5	0.54	0.5	0.54	0.5	0.54	0.5	0.54	0.5	0.54	2.5	2.70
7	Application of weedicide	Ha	3000	All Blocks except B2,B13,B14,B19,B18,B20	750	22.50	750	22.50	750	22.50	750	22.50	750	22.50	3750	112.50
8	Distribution of Certified seed	MT	115000	B4,B7,B6,B18	1.7	1.96	1.7	1.96	1.7	1.96	1.7	1.96	1.7	1.96	8.5	9.78
	Grand total					**92.56**		**92.56**		**92.56**		**92.56**		**92.56**		**462.79**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.6 Increasing Sugarcane Production

Sugarcane is one of the major crops being grown across the district. It is cultivated in an area of 11951 ha. The growth rate revealed that the yield is reduced at the rate of 1.30 per cent. Sugarcane is grown chiefly in the main season (December - May). Production of un-bleached sugar-vellam or Nattu Sarkarai — is a major cottage industry being function among the sugarcane cultivators of Salem. The average productivity of sugar cane is low with certain regions in the country reporting yields as low as 60 tonnes per hectare. However, Tamil Nadu is better performing state in terms of productivity; an average productivity in our State is 110 tonnes per hectare. Still there is scope to improve the productivity even up to 250 tonnes per hectare in this district. Hence, there is an urgent need to improve productivity and profitability through an integrated approach. The supply of inputs, integrated pest and disease management and integrated nutrient management will influence the production and ultimately the productivity of the crop. Sustainable sugar cane Initiatives is the new integrated technology mainly to improve the productivity of land, water and labour without further degrading the sugar cane growing ecosystems.

Project Goal

The main aim of the project is to promoting drip irrigation and increasing the productivity of sugarcane.

Project area

The project will be implemented in major sugarcane growing areas of Salem viz, Edapaddy, Kadayampatti, Konganapuram, Mecheri, Omalur, PN Palayam and Sankagiri in an area coverage of 195 ha.

Project components

- Distribution of biofertilizer and weedicide in all blocks except Mecheri, Nangavalli and Tharamnagalam
- Distribution of micro nutrients in Kadayampatti and Veerapandy blocks

Project Cost

The cost required for implementation of the project during the five year terms is ₹ **40.00** lakhs.

Table 4.6 Budget Requirement for Agriculture Sector in Sugarcane

(₹in lakhs)

Sl. No	Components	Unit	Unit cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Distri. of biofertilizer (Ha)	Ha	0.006	All Blocks except B9,B10,B17	875	5.25	875	5.25	875	5.25	875	5.25	875	5.25	4375	26.25
2	Distri. of weedicide (Ha)	Ha	0.01	B5,B14	75	0.75	75	0.75	75	0.75	75	0.75	75	0.75	375	3.75
3	Distribution of Micro Nutrient Mixture	Ha	0.02	B5,B18	100	2.00	100	2.00	100	2.00	100	2.00	100	2.00	500	10.00
	Grand Total					**8.00**		**8.00**		**8.00**		**8.00**		**8.00**		**40.00**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.7 Augmenting coconut yield through advanced production technologies

Coconut is a long term crop. All the parts of the coconut trees are beneficial and used as rew materials for coir industry. Coconut cultivation is strictly a tropical tree ideal for irrigated garden lands with good drainage facilities". Dry humid weather is ideal for coconut cultivation. Medium fertile to high fertile soils are well suited for higher yield. Drainage and better aeration in the soil is best for coconut cultivation." For increasing the coconut cultivation, the adoption of following interventions will ensure the production.

Project area

The project will be implemented in most of the blocks in the district except Veerapandy and Yercaud where coconut cultivation is meager.

Project components

- Distribution of T×D seedlings in all blocks except Salem and Yercaud
- Intercropping with green manures in all blocks except Salem and Yercaud
- Distribution of power operated rocker sprayer in all blocks
- Corpus fund release for FPG in all blocks except yercaud

Project Cost

The cost required for implementation of the project during the five year terms is ₹**1597.25** lakhs.

Implementing Agency

The project is implemented by the Department of Agriculture. The evaluation will be done by evaluation committee in year wise.

Table 4.7 Budget Requirement for Agriculture Sector in Coconut

(₹in lakhs)

Sl. No	Components	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Distribution of T x D hybrid seedlings	No	0.0006	All Blocks except B14,B20	16750	10.05	16750	10.05	16750	10.05	16750	10.05	16750	10.05	83750	50.25
2	Distribution of Tall Seedlings	No	0.0004	All Blocks except B14,B20	16400	6.56	16450	6.58	16550	6.62	16550	6.62	16550	6.62	82500	33.00
3	Distribution of power operated rocker sprayer	No	0.1	All Blocks except B1,B3,B12,B13,B18,B20	57	5.70	57	5.70	57	5.70	57	5.70	57	5.70	285	28.50
4	Intercropping with green manures	Ha	0.03	All Blocks except B14,B20	1070	32.10	1070	32.10	1070	32.10	1070	32.10	1070	32.10	5350	160.50
5	corpus fund release for FPG (2000 nos.)	No	5	All Blocks except B20	53	265.00	106	530.00	106	530.00	0	0.00	0	0.00	265	1325.00
	Grand Total					**319.41**		**584.43**		**584.47**		**54.47**		**54.47**		**1597.25**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.9. Enhancing the livelihood of farmers through training

Agricultural extension is being provided at the Block level and below, under the Extension Reforms scheme being implemented. Contact them or any other functionary of the State Government in Agriculture and allied departments to get answers for the queries, information about any Programme / Scheme and appropriate technologies for the area or individual farmer. The new information that farmers gain through these training sessions makes their daily farming activities much easier. It also leads to an increase in productivity and bigger profits in the long run.

Project components

- State level trainings to Extension officials
- District level and inter district level training programmes to farmers
- Exposure visits to farmers

Budget

It is proposed to incur ₹.**478.50** lakhs over a period of five years with the finance facilities under the NADP and other sources.

Expected outcome

The projects will results better income to farmers. They may learn many things to improve their knowledge of cultivation if they listen this programme which will improve the income of the farmers.

Implementing Agency

Department of Agriculture will implement the project and report the progress to the Director of Agriculture and State nodal officers.

Table 4.8 Budget Requirement for Agriculture Sector in Training

(₹in lakhs)

Sl. No	Components	Unit	Unit Cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	State level															
I	**Training Extension Functionaries**															
1	Inter State Training of Extension functionaries	Nos.	0.75	B14	2	1.50	2	1.50	2	1.50	2	1.50	2	1.50	10	7.50
2	Paddy	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
3	Major & Minor Millets	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
4	Pulses	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
5	Sugarcane	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
6	Cotton	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
7	Groundnut	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
8	oil Palm		0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
9	IFS	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
10	Moisture conservation practices	Nos.	0.9	B14	1	0.90	1	0.90	1	0.90	1	0.90	1	0.90	5	4.50
11	Value addition training		0.9	B14	2	1.80	2	1.80	2	1.80	2	1.80	2	1.80	10	9.00
12	Organic cultivation practices	Nos.	0.9	B14	2	1.80	2	1.80	2	1.80	2	1.80	2	1.80	10	9.00
13	Training of Technical Staff in STL / MSTL	Nos.	0.6	B14	2	1.20	2	1.20	2	1.20	2	1.20	2	1.20	10	6.00
14	Training of Extension functionaries on Soil Testing and balanced Nutrition	Nos.	0.2	B14	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
15	Refresher Training of all ATMA functionaries	Nos.	1.2	B14	1	1.20	1	1.20	1	1.20	1	1.20	1	1.20	5	6.00
	District Level															

Sl. No	Components	Unit	Unit Cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Training of Farmers															
16	Inter State Training of Farmers	Nos.	1.25	B14	2	2.50	2	2.50	2	2.50	2	2.50	2	2.50	10	12.50
17	Inter State Training of Farmers	Nos.	1.75	B14	2	3.50	2	3.50	2	3.50	2	3.50	2	3.50	10	17.50
18	Training of 536 Groups of Seed Village Farmers in quality Seed Production technology.	Nos.	0.1	All Blocks	20	2.00	20	2.00	20	2.00	20	2.00	20	2.00	100	10.00
19	Training of Farmers under Mission Soil Health Card	Nos.	0.15	All Blocks	20	3.00	20	3.00	20	3.00	20	3.00	20	3.00	100	15.00
20	With in the State training of Farmers	Nos.	1.2	B14	3	3.60	3	3.60	3	3.60	3	3.60	3	3.60	15	18.00
	Training of Farmers With in the district															
21	Awareness campaigns	Nos.	0.1	All Blocks	40	4.00	40	4.00	40	4.00	40	4.00	40	4.00	200	20.00
22	Cotton	Nos.	0.1	All Blocks except B20	19	1.90	19	1.90	19	1.90	19	1.90	19	1.90	95	9.50
23	Groundnut	Nos.	0.1	All Blocks except B20	38	3.80	38	3.80	38	3.80	38	3.80	38	3.80	190	19.00
24	IFS	Nos.	0.1	All Blocks	20	2.00	20	2.00	20	2.00	20	2.00	20	2.00	100	10.00
25	Major & Minor Millets	Nos.	0.1		18	1.80	18	1.80	18	1.80	18	1.80	18	1.80	90	9.00
26	Moisture conservation practices	Nos.	0.1	All Blocks	20	2.00	20	2.00	20	2.00	20	2.00	20	2.00	100	10.00
27	oil Palm	Nos.	0.1	All Blocks except B4,B13,B14,B18,B20	15	1.50	15	1.50	15	1.50	15	1.50	15	1.50	75	7.50
28	Organic cultivation practices	Nos.	0.1	All Blocks	40	4.00	40	4.00	40	4.00	40	4.00	40	4.00	200	20.00
29	Paddy	Nos.	0.1		38	3.80	38	3.80	38	3.80	38	3.80	38	3.80	190	19.00
30	Pulses	Nos.	0.1	All Blocks	40	4.00	40	4.00	40	4.00	40	4.00	40	4.00	200	20.00
31	Sugarcane	Nos.	0.1	All Blocks except B20	19	1.90	19	1.90	19	1.90	19	1.90	19	1.90	95	9.50

Sl. No	Components	Unit	Unit Cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
32	Value addition training	Nos.	0.1	All Blocks	40	4.00	40	4.00	40	4.00	40	4.00	40	4.00	200	20.00
	Exposure visit of Farmers															
33	Rodent Pest Management Demonstration	Nos.	0.04	All Blocks	60	2.40	60	2.40	60	2.40	60	2.40	60	2.40	300	12.00
34	With in State Exposure visit	Nos.	0.4	All Blocks	40	16.00	40	16.00	40	16.00	40	16.00	40	16.00	200	80.00
35	Organisation of Kisan gosthies on Soil test based nutrient application (Campaign)	Nos.	0.15	All Blocks	40	6.00	40	6.00	40	6.00	40	6.00	40	6.00	200	30.00
36	With in the district exposure visit	Nos.	0.15	All Blocks	40	6.00	40	6.00	40	6.00	40	6.00	40	6.00	200	30.00
	TOTAL					**95.70**		**95.70**		**95.70**		**95.70**		**95.70**		**478.50**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.9. Infrastructure development

Supply of equipments in seed production

Seed is the most basic input in agriculture. Therefore, the sustained supply of the quality seeds will continue to be a key factor for augmenting agricultural growth. The seed processing is a vital part of the seed production activities and the State Government has accorded high priority. In view of above, efforts have to be taken with the objective of production of quality seeds of agricultural crops through scientific methods and adopting appropriate processing techniques through establishment and modernization of State seed processing plants.

After harvesting, cleaning, drying, processing, and packaging, the representative samples of seed lot are required to be taken and sent to the laboratory for quality testing. From the test results, genetic, physical, physiological and health qualities of seeds are determined. Different countries have set their own standards to find out these qualities in the seed lot. The National Seed Board, for instance has approved maximum amount of moisture content, minimum germination potential and minimum physical purity in foundation, certified and truthfully labeled seeds of different crops as basic seed standards. The test results must conform the approved seed standards to send the seeds in the market for commercial transaction.

The major interventions are

1. Bag closure for all blocks
2. Distribution of Dunnage, Electronic platform balance and Moisture meter for all the blocks

Budget

It is proposed to incur ₹. **877.25** lakhs over a period of five years with the finance facilities under the NADP and other sources.

Expected outcome

The project will results better income to farmers. They may learn many things to improve their knowledge of cultivation through basic infrastructure facilities which will improve the income of the farmers.

Implementing Agency

Department of Agriculture will implement the project and report the progress to the Director of Agriculture and State nodal officers.

Table 4.9 Budget Requirement for Agriculture Sector in Infrastructure

(₹ in Lakhs)

Sl. No.	Components	Unit	Unit Cost (in Rs.)	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Dunnage	Nos.	7500	All Blocks	485	36.38	0	0.00	485	36.38	0	0.00	0	0.00	970	72.75
2	Moisture meter	Nos.	25000	All Blocks	20	5.00	0	0.00	0	0.00	0	0.00	0	0.00	20	5.00
3	Bag closure	Nos.	10000	All Blocks	20	2.00	0	0.00	20	2.00	0	0.00	20	2.00	60	6.00
4	Electronic platform balance	Nos.	150000	All Blocks	20	30.00	0	0.00	0	0.00	0	0.00	20	30.00	40	60.00
5	Seed rack	Nos.	30000	All Blocks	195	58.50	0	0.00	0	0.00	0	0.00	200	60.00	395	118.50
6	Tarpaulin	Nos.	25000	All Blocks	20	5.00	20	5.00	20	5.00	20	5.00	20	5.00	100	25.00
7	Office Furnishings and other amenities	Nos.	200000	All Blocks	20	40.00	0	0.00	0	0.00	0	0.00	0	0.00	20	40.00
8	Strengthening of training institute / nursery / FTC / KVK	Nos.	50000000	All Blocks	0	0.00	1	500.00	0	0.00	0	0.00	0	0.00	1	500.00
9	Infrastructure for empowerment of coconut nurseries	Nos.	5000000	All Blocks	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	50.00
	Grand total					**176.88**		**505.00**		**93.38**		**5.00**		**97.00**		**877.25**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.10. Soil Health Management

It has been observed that the average productivity of major crops in Tamil Nadu is only about 60 percent of the potential yield. The reason may be due to decline in organic matter content of the soil of the State leading to low soil fertility. The availability of organic manures to farmers has become scanty and costly. The importance of FYM/Green manuring in maintaining the organic matter status of the soil has to be educated to the farmers. The total production of bio-fertilizers has to be stepped up to meet the growing demand. Similarly, crop based micronutrient mixtures need to be promoted. Soil amendments *viz.,* gypsum and lime have to be provided at a subsidized rate as a reclamation measure for the cultivable acid and alkali soils. Besides, efficient earthworm cultures should be provided for establishing vermicompost unit at subsidized rate with training on vermicompost production.

Project Component

- Production of enriched FYM and composting of farm waste through *Pluerotus* in all blocks except Salem
- Green manuring in all blocks except Nangavalli block

Budget

Enhancing soil health by distributing enriched farm yard manure, micro-nutrient mixture, gypsum, bio-fertilizers, *etc.* are essential to maximize profitability. The overall budget to undertake the various interventions in this district is ₹.**420.73** lakhs.

Expected Outcome

Healthy soils are the foundation for profitable, productive and environmentally sound agricultural systems. In an agricultural context, it refers to the ability of the soil to sustain agricultural productivity and protect environmental resources. The proposed soil health management practices will improve soil health by increasing productivity and ensure profitability immediately and into the future.

Implementing Agency

The projects will be implemented by the Department of Agriculture. The progress will be monitored by Director of Agriculture and State nodal agencies.

Table 4.10. Budget Requirement for Agriculture Sector in Soil Health Management

(₹in lakhs)

Sl. No	Components	Unit	Unit Cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Soil Health Management															
1	Green Manuring	Nos	4000	All Blocks except B10	1600	64.00	1725	69.00	1750	70.00	1750	70.00	1775	71.00	8600	344.00
2	Production of Enriched FYM	MT	2500	All Blocks except B14	585	14.63	585	14.63	585	14.63	585	14.63	585	14.63	2925	73.13
3	Composting of Farm Waste Through Pluerotus (Production and Distribution of Kits)	MT	200	All Blocks except B14	360	0.72	360	0.72	360	0.72	360	0.72	360	0.72	1800	3.60
	Total					**79.35**		**84.35**		**85.35**		**85.35**		**86.35**		**420.73**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.11 Rainfed Area Development

Rainfed areas account for nearly 57 per cent of the agricultural land in India. Rainfed areas if managed properly, have the potential to contribute a larger share in the food grain production. These high potential rainfed areas provide us with opportunities for faster agricultural growth compared to irrigated areas that have reached a plateau. In-fact the potential is such that there is more opportunity for faster agricultural growth here than in irrigated areas. With proper management, rainfed areas have the potential of contributing a larger share to food grain production. Increasing agricultural productivity of rainfed areas in a sustainable manner by adopting appropriate farming system based approaches through Restoration of confidence in rainfed agriculture by creating sustained employment opportunities through improved on-farm technologies and cultivation practices. Enhancement of farmer's income and livelihood support for reduction of poverty in rainfed areas.

Project components

- Promotion of Milch Animal (1 no) + 1 ha cropping system with inter crop & border plantation like castor/sesbania etc. in Panamarathupatti, Edappady and Konganapuram blocks
- Promotion of Farmers club for Sustainable Dryland Agriculture covering all blocks except Salem

Budget

It is proposed to incur ₹.**5367.25** lakhs over a period of five years with the finance facilities under the NADP and other sources.

Expected outcome

The expected outcome of the project will result in an increase in the production of the rainfed crops which will improve the income of the farmers

Implementing Agency

The projects will be implemented by the Department of Agriculture. The progress will be monitored by Director of Agriculture and State nodal agencies.

Table 4.11 Budget Requirement for Agriculture Sector in Rainfed Area Development

(₹in lakhs)

Sl. No	Components	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Milch Animal (1 no) + 1 ha cropping farming system (Cropping system with inter crop & border plantation like castor/sesbania etc.) @ Rs.27500/ as subsidy per Unit	Ha	0.55	B13,B4,B7, B13	500	275.00	500	275.00	500	275.00	500	275.00	500	275.00	2500	1375.00
2	Promotion of Farmers club for Sustainable Dryland Agriculture	Cluster	84.9415	All Blocks except B14	30	2548.25	17	1444.01	0	0.00	0	0.00	0	0.00	47	3992.25
	Grand Total					**2823.25**		**1719.01**		**275.00**		**275.00**		**275.00**		**5367.25**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.12. Integrated Pest Management (IPM)

Integrated Pest Management also known as integrated pest control is a broad based approach that integrates practices for economic control of pests. IPM aims to suppress pest populations below the economic injury level. IPM used in agriculture, horticulture, forestry, human habitations, preventive conservation and general pest control, including structural pest management. The principle is on control not eradication. IPM holds that wiping out an entire pest population is often impossible and the attempt can be expensive and unsafe. IPM programmes first work to establish acceptable pest levels, called action thresholds and apply controls if those thresholds are crossed. The IPM process starts with monitoring, which includes inspection and identification, followed by the establishment of economic injury levels. Integrated pets management employ a variety of actions including cultural controls, physical barriers, biological controls, adding and conserving natural predators and enemies to the pest and finally chemical controls or pesticides.

Farmers Field Schools (FFS) is group based learning process that has been used by a governments to promote Integrated Pest Management (IPM). The FFS is a form of adult education, which evolved from the concept that farmers learn optimally from field observation and experimentation. It was developed to help farmers tailor their IPM practices to diverse and dynamic ecological conditions.

Interventions

1. Conduct of Farmers Field Schools (FFS) in all blocks except Salem
2. Conduct of Field days in all blocks except Salem and Veerapandy

Budget

It is proposed to incur ₹. **98.00** lakhs over a period of five years with the finance facilities under the NADP and other sources.

Expected outcome

The project will results may increase the productivity of crops through following of IPM technologies for controlling of pest and disease which will improve the income of the farmers.

Implementing Agency

The projects will be implemented by the Department of Agriculture. The progress will be monitored by Director of Agriculture and State nodal agencies.

Table 4.12 Budget Requirement for Agriculture Sector in IPM

(₹in lakhs)

Sl. No	Components	Unit	Unit Cost (in Rs.)	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Farmers Field Schools (FFS)	Nos.	20000	All Blocks except B14	48	9.60	48	9.60	48	9.60	48	9.60	48	9.60	240	48.00
2	Field days	No.	20000	All Blocks except B14,B18	50	10.00	50	10.00	50	10.00	50	10.00	50	10.00	250	50.00
	Total					**19.60**		**19.60**		**19.60**		**19.60**		**19.60**		**98.00**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.13. Farm Mechanization

Agricultural mechanization is the need of the hour to meet out the growing shortage of labour workforce in Agriculture. It has been identified as one of the critical inputs for increasing production in time. The labour intensive crops need high man power requirement, which is fast depleting and posing a big challenge to crop productivity. Agricultural labour wages are increasing at an alarming rate in Tamil Nadu resulting in shifting from labour intensive to mechanization intensive techniques. The farm machinery for land preparations, land development, seeding, planting, transplanting, weeding and intercultural operations, harvesting and threshing which are predominantly used in other parts of the country / other countries are proposed for introduction in the farmers field of Salem district.

Project Component:

- Distribution power tiller in all blocks except Kolathur and Konganapuram
- Distribution of laser leveller in Kolathur block
- Distribution of tarpaulins to all blocks
- Distribution of PVC Pipes to carry irrigation water from source to field in all blocks
- Distribution of sprayers (power, hand and battery operated sprayer) in Attur, Gangavalli, P. N. Palayam, Thalaivasal, Velapady and Yercaud blocks
- Distribution of weeder (power weeder and rotary power weeder) in Velapady and Yercaud blocks

Budget:

Agricultural mechanization programs are proposed to implement in a big way to increase the agricultural production and to popularize the agricultural machinery among the farmers of this district with a budget of ₹.**2200.07** lakhs.

Expected Outcome:

Distribution of farm machinery / implements to farmers will increase the farm power. All the proposed agricultural machinery / implements will be put into use by the farmers. The acute agricultural labour scarcity will be reduced. The benefit of agricultural mechanization is to be extended to all categories of farmers with due consideration to small, marginal, scheduled caste, scheduled tribes and women farmers.

Implementing Agency:

The projects will be implemented by the Department of Agriculture. The progress will be monitored by Director of Agriculture and State nodal agencies.

Table 4.13.Budget Requirement for Agriculture Sector in Farm machineries

(₹in lakhs)

Sl. No	Components	Unit	Unit Cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Farm Mechanization															
1	Battery operated sprayer	Nos.	0.04	Athur, Gangavalli, P.N.Palayam, Thalaivasal, Valappadi and Yercaud	120	4.80	110	4.40	110	4.40	110	4.40	110	4.40	560	22.40
2	Power operated sprayer	Nos.	0.08	All Blocks	221	17.68	238	19.04	243	19.44	243	19.44	248	19.84	1193	95.44
3	Hand operated sprayer	Nos.	0.015	Edappadi, Kadyampatti, Mecheri, Omalur and Tharamangalam	25	0.38	25	0.38	25	0.38	25	0.38	25	0.38	125	1.88
4	Distribution of Laser leveller	Nos	3.8	Kolathur	1	3.80	1	3.80	1	3.80	1	3.80	1	3.80	5	19.00
5	Distribution of Power Weeder	Nos	0.65	Valappadi and Yercaud	2	1.30	1	0.65	2	1.30	2	1.30	2	1.30	9	5.85
6	Distribution of Powertiller	Nos	1.5	All Blocks except Kolathur and Kongnapuram	34	51.00	34	51.00	36	54.00	36	54.00	39	58.50	179	268.50
7	Distribution of Rotary Power weeder	Nos	0.7	Athur, Ayothiapattinam, Gangavalli, P.N.Palayam, Panamarathupatti, Salem,Thalaivasal, Valappadi, Veerapandi and Yercaud	24	16.80	22	15.40	24	16.80	26	18.20	26	18.20	122	85.40
8	Distribution of Rotavator	Nos	0.8	All Blocks except Kongnapuram	122	97.60	114	91.20	122	97.60	126	100.80	126	100.80	610	488.00

Sl. No	Components	Unit	Unit Cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
9	Distribution of Tarpaulins	Nos	0.08	All Blocks	603	48.24	613	49.04	618	49.44	643	51.44	643	51.44	3120	249.60
10	PVC Pipes to carry Irrigation water from source to field	Unit	0.4	All Blocks	481	192.40	471	188.40	486	194.40	486	194.40	486	194.40	2410	964.00
	Total					**434.00**		**423.31**		**441.56**		**448.16**		**453.06**		**2200.07**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.14. Strengthening of State Seed Farm

Seed is the basic and most critical input for sustainable agriculture. The response of all other inputs depends mainly on quality of seeds to a large extent. It is estimated that the direct contribution of quality seed alone to the total production is about 15–20% depending upon the crop and it can be further raised up to 45% with efficient management of other inputs. The total seed requirement of the country amounts to 2.56 lakh tonnes. However, about 20 per cent of the total seed requirement is met as quality seeds, while the rest is managed by farm saved seeds. The main reason for wider gap in agricultural crops especially pulses and oilseeds was that most of the private and multinational companies are concentrating on high value and low volume crops like hybrid cotton, millets and vegetables whereas only public institutions are producing and marketing high volume and low value crops like pulses and oilseeds. Hence, high emphasis has to be given for the production and supply of quality seeds of pulses and oilseeds to farmers and increase the Seed Replacement Rate. Hence, there is an urgent need for the State Seed Corporations also to transform themselves in tune with the industry in terms of infrastructure, technologies, approach and the management culture to be able to survive in the competitive market and to enhance their contribution in the national endeavour of increasing food production to attain food & nutritional security.Therefore, the infrastructure facilities at the SSFs like levelled land, more area, assured irrigation, thrashing floor, drying yard, processing units, storage etc., are essential to produce, process and pack quality seeds. Therefore, the strengthening of state seed farms is aimed for ensuring quality seed production in Tamil Nadu.

Project components

- Distribution of irrigation components will be in all blocks
- Supply of machineries in Kadayampatti and Kolathur block
- Infrastructure development for seed production in Kadayampatti and Kolathur block

Budget

It is proposed to incur ₹.**283.60** lakhs over a period of five years with the finance facilities under the NADP and other sources.

Expected outcome

The expected outcome of the project will result it will enhanced production of quality seeds of Crop varieties and Ensure timely delivery of seeds to farmers and also increase supply of good quality seed which increase the production and the income of the farmers.

Implementing Agency

Department of Agriculture will implement the project and report the progress to the Director of Agriculture and also state nodal agencies.

Table 4.14. Budget Requirement for Agriculture Sector in SSF

(₹in lakhs)

Sl. No	Components	unit	unit cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	**Irrigation Component**															
1	Solar pump sets	nos	6	All Blocks	1	6.00	0	0.00	0	0.00	0	0.00	0	0.00	1	6.00
2	Deepening of bore well	nos	4	All Blocks	0	0.00	1	4.00	0	0.00	0	0.00	0	0.00	1	4.00
3	Laying of pipelines	mt	0.05	Kadyampatti and Kolathur	280	14.00	100	5.00	0	0.00	0	0.00	0	0.00	380	19.00
4	Rain gun	nos	0.4	Kadyampatti and Kolathur	1	0.40	4	1.60	0	0.00	0	0.00	0	0.00	5	2.00
5	New bore well with EB connection	nos	8	Kadyampatti and Kolathur	1	8.00	1	8.00	0	0.00	0	0.00	0	0.00	2	16.00
6	New open well+ Pumpset	nos	10	Kadyampatti	1	10.00	0	0.00	0	0.00	0	0.00	0	0.00	1	10.00
7	Deepening of open well	nos	8	Kadyampatti	1	8.00	1	8.00	0	0.00	0	0.00	0	0.00	2	16.00
II	**Machineries**															
8	Rotavator	nos	1	Kadyampatti	1	1.00	0	0.00	1	1.00	0	0.00	0	0.00	2	2.00
9	Tractor and accessories	nos	10	Kadyampatti	1	10.00	0	0.00	1	10.00	0	0.00	0	0.00	2	20.00
10	Tarpaulin	nos	0.1	Kadyampatti and Kolathur	5	0.50	6	0.60	0	0.00	0	0.00	0	0.00	11	1.10
III	**Civil Works**															
11	Farm protection structure	mt	0.15	Kadyampatti	600	90.00	0	0.00	0	0.00	0	0.00	0	0.00	600	90.00
12	New Threshing floor	nos	5	Kadyampatti and Kolathur	1	5.00	1	5.00	0	0.00	0	0.00	0	0.00	2	10.00
13	seed godown	nos	25	Kadyampatti	1	25.00	1	25.00	0	0.00	0	0.00	0	0.00	2	50.00
14	Farm office	nos	8	Kadyampatti and Kolathur	2	16.00	0	0.00	1	8.00	0	0.00	0	0.00	3	24.00
15	Farm office renovation	nos	3	Kolathur	0	0.00	1	3.00	0	0.00	0	0.00	0	0.00	1	3.00
16	Farm connectivity	Meter	0.015	Kolathur	0	0.00	0	0.00	700	10.50	0	0.00	0	0.00	700	10.50
	Total					**193.90**		**60.20**		**29.50**		**0.00**		**0.00**		**283.60**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.1.15. Information Technology in Agriculture

Agriculture is a major sector which is vital for the survival of modern man. The produce from agriculture drives trade from one country to another, brings income for farmers, makes productive use of otherwise idle land and brings food on the table. It is such an important part of everyone's daily life, although it may not be seen as a direct factor since the produce goes a long way before reaching the hands of everyone who benefits from it. Because of its importance to society, it's must to evolve with the times and adjust to meet the needs of modern people. By adapting and making use of IT to help improve agricultural progress, everyone benefits from the union of these sectors.

Role of IT in Agriculture

In the context of agriculture, the potential of information technology (IT) can be assessed broadly under two heads: (a) as a tool for direct contribution to agricultural productivity and (b) as an indirect tool for empowering farmers to take informed and quality decisions which will have positive impact on the way agriculture and allied activities are conducted. The indirect benefits of IT in empowering farmer are significant and remain to be exploited. The farmer urgently requires timely and reliable sources of information inputs for taking decisions. At present, the farmer depends on trickling down of decision inputs from conventional sources which are slow and unreliable. The changing environment faced by farmers makes information not merely useful, but necessary to remain competitive.

Components include input devices, output devices, processors, storage devices, software, networking devices, transmission media and other accessories. The components will be distributed to all the blocks.

Budget

It is proposed to incur ₹.**123.80** lakhs over a period of five years with the finance facilities under the NADP and other sources.

Expected outcome

The expected outcome of the project will result in an increase in the adoption of technologies for production of the crops which will improve the income of the farmers

Implementing Agency

Department of Agriculture will implement the project and report the progress to the Director of Agriculture and also state nodal agencies.

Table 4.15..Budget Requirement for Agriculture Sector in Information Technology

(₹in lakhs)

Sl. No	Components	Unit	Unit Cost	Blocks Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Procurement of Hardware for replacement of old hardware	Nos	50000	All Blocks	20	10.00	1	0.50	1	0.50	1	0.50	1	0.50	24	12.00
2	Connectivity Charges	Nos	11000	All Blocks	24	2.64	24	2.64	24	2.64	24	2.64	24	2.64	120	13.20
3	Printer cum Scanner	Nos	20000	All Blocks	20	4.00	1	0.20	1	0.20	1	0.20	1	0.20	24	4.80
4	UPS and Electrical Accessories	Nos	35000	All Blocks	20	7.00	1	0.35	1	0.35	1	0.35	1	0.35	24	8.40
5	Xerox machine	Nos	75000	All Blocks	20	15.00	1	0.75	1	0.75	1	0.75	1	0.75	24	18.00
6	Laptop/Desktop	Nos	50000	All Blocks	20	10.00	1	0.50	1	0.50	1	0.50	1	0.50	24	12.00
7	Anti -virus software	Nos	2500	All Blocks	24	0.60	24	0.60	24	0.60	24	0.60	24	0.60	120	3.00
8	Television	Nos	100000	All Blocks	20	20.00	0	0.00	0	0.00	0	0.00	0	0.00	20	20.00
9	Colour printer	Nos	15000	All Blocks	20	3.00	1	0.15	1	0.15	1	0.15	1	0.15	24	3.60
10	4G Internet - Dongle	Nos	2500	All Blocks	20	0.50	1	0.03	1	0.03	1	0.03	1	0.03	24	0.60
11	**Equipments for Documentation**															
a	Camera	Nos	25000	All Blocks	20	5.00	0	0.00	0	0.00	0	0.00	0	0.00	20	5.00
b	GPS instrument	Nos	20000	All Blocks	20	4.00	0	0.00	0	0.00	0	0.00	0	0.00	20	4.00
c	Android mobile	Nos	15000	All Blocks	20	3.00	0	0.00	0	0.00	0	0.00	0	0.00	20	3.00
d	External Hard disk	Nos	5000	All Blocks	20	1.00	1	0.05	1	0.05	1	0.05	1	0.05	24	1.20
e	LCD projector	Nos	75000	All Blocks	20	15.00	0	0.00	0	0.00	0	0.00	0	0.00	20	15.00
	Total					**100.74**		**5.77**		**5.77**		**5.77**		**5.77**		**123.80**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

Table 4.16. Budget requirement for Agriculture Sector

(₹in lakhs)

Sl. No	Components	2017-18	2018-19	2019-20	2020-21	2021-22	Total
1	Paddy	212.62	213.10	213.61	213.71	213.71	1066.75
2	Millets	235.94	236.98	238.67	239.09	240.14	1190.81
3	Pulses	612.06	531.81	537.54	539.00	539.42	2759.83
4	Oilseeds	569.52	525.49	634.72	585.48	589.94	2905.13
5	Oilpalm	0.00	0.00	0.00	0.00	0.00	0.00
6	Cotton	92.56	92.56	92.56	92.56	92.56	462.79
7	Sugarcane	8.00	8.00	8.00	8.00	8.00	40.00
8	Coconut	319.41	584.43	584.47	54.47	54.47	1597.25
9	Training	95.70	95.70	95.70	95.70	95.70	478.50
10	Infrastructure	176.88	505.00	93.38	5.00	97.00	877.25
11	Soil Health Management	79.35	84.35	85.35	85.35	86.35	420.73
12	Rainfed Area Development	2823.25	1719.01	275.00	275.00	275.00	5367.25
13	Integrated Pest Management	19.60	19.60	19.60	19.60	19.60	98.00
14	Farm Mechanization	434.00	423.31	441.56	448.16	453.06	2200.07
15	Strengthening of State Seed Farm	193.90	60.20	29.50	0.00	0.00	283.60
16	Agriculture Information Technology	100.74	5.77	5.77	5.77	5.77	123.80
	Total	**5973.53**	**5105.31**	**3355.43**	**2666.89**	**2770.72**	**19871.76**

4.2 Strengthening of research infrastructure for agriculture sector

Creation of infrastructure facilities for research

Infrastructure like protected cultivation (glass house) and protected nursery raising, proper spacing, fertigation and timely plant protection give higher yield than the conventional system of crop husbandry. Hence, the production of flowers and hybrid vegetables especially tomato under net house structures are useful for the control of humidity, temperature pest and disease management. Based on the new introduction and high cost involved and more of small and marginal farmers, we suggest to make the protected structure into small units. The units like nursery, glasshouse, polyhouse and shade net will be established.

Establishment of Tapioca minimal Processing Unit

Processing of horticultural produce and value addition is an important activity. The primary / minimal processing units are promoted by the Government. Large scale processing units are promoted by Ministry of Food Processing Industries (MFPI), out of their ongoing schemes. The project is proposed with a budget outlay of Rs. 100 lakh.

Establishment of castor seed processing unit

Castor oil is one of the most useful industrial non edible oils all over the world. Castor oil is used in pharmaceuticals, food, and other industries in various grades. Apart from that, castor oil is the source of a number of useful oleo chemicals. This kind of oil can provide comprehensive resources related to castor plant, castor bean, castor oil, castor derivatives & castor-based oleo chemicals. Manual shelling of caster is labourions, costly time consuming and cucubersome process. Mechanical castor seed processing unit ensure timely shelling operation with minimum cost. The establishment of castor seed processing unit will increase the economy of the farmer. The project is proposed with a budget outlay of Rs. 20 lakh.

Budget

It is proposed to incur ₹. **752.00** lakhs over a period of five years

Expected outcome

Improvement in the productivity and income level of the farmers.

Implementing agency

Tamil Nadu Agricultural University will be implementing the project. The progress will be monitored by the vice- chancellor, TNAU and state nodal agency.

Table 4.17 Budget for Agricultural Research infrastructure in Salem

(₹in lakhs)

Sl. No.	Interventions	Unit Cost	Blocks Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
				Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
I	**Research Infrastructure**														
1	Establishment of Biocontrol laboratory	80	Yercaud	0	0	1	80	0	0	0	0	0	0	1	80.00
2	Construction of Farmer Trainees Hostel	100	Yercaud	0	0	0	0	1	100	0	0	0	0	1	100.00
3	Establishment of glass house, polyhouse and shade net	6	Yercaud & Pethanaickenpalayam	2	12	2	12	1	6	0	0	0	0	5	30.00
4	Establishment of nursery with sales out let	25	Yercaud	0	0	0	0	0	0	1	25	0	0	1	25.00
5	Strengthening of soil science laboratory	10	Yercaud	0	0	0	0	0	0	0	0	1	10	1	10.00
6	Establishment of Farmers Training Centre	200	Yercaud	0	0	0	0	0	0	0	0	1	200	1	200.00
7	Establishment of Tapioca minimal Processing Unit	100	Pethanaickenpalayam	1	100	0	0	0	0	0	0	0	0	1	100.00
8	Establishment of castor seed processing unit	20	Pethanaickenpalayam	0	0	1	20	0	0	0	0	0	0	1	20.00
	Subtotal (I)				**112**		**112**		**106**		**25**		**210**		**565**
II	**Production and Growth**														
1	Introduction of hybrid castor in non-traditional area (Cauvery delta and Rainfed Southern zone) as contingent crop to ensure assured returns.	95	Pethanaickenpalayam	0	0	1	95	0	0	0	0	0	0	1	95.00

Sl. No.	Interventions	Unit Cost	Blocks Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
				Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
2	Farmers Participatory approach to popularize castor hybrid seed production in Tamil Nadu	12	Pethanaickenpalayam	0	0	0	0	0	0	1	12	0	0	1	12.00
3	Integrating Agri-Silvi-Pasture to sustain soil health, crop productivity and improving the livelihood of rainfed farmers	80	Ramanathapuram	0	0	0	0	1	80	0	0	0	0	1	80
4	Organic vegetable production	Salem	26	0	0	1	26	0	0	0	0	0	0	1	26
	Subtotal (II)				**0**		**121**		**80**		**12**		**0**	**3**	213
	Total				**112.00**		**233.00**		**186.00**		**37.00**		**210.00**	**15.00**	**778.00**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.3 HORTICULTURE

Enhancing the productivity of horticultural crops

Horticulture plays a vital role in the food and nutritional security of the people as well as in earning foreign exchange through export of raw and value added horticultural crops. The farmers are ready to go in for the cultivation of horticultural crops which prove remunerative. The challenge lies in taking the technologies to 90 per cent of farmers who are small and marginal farmers. In all, horticulture crops are grown in 10.01 lakh hectares, of which vegetables, spices, plantation crops, flowers and medicinal plants are the major crops cultivated in the State. Totally, 86 horticultural crops are grown in the State which clearly indicates the crop diversity and also the possibility of augmenting the income of farmers. The major strategies suggested are as follows:

Area expansion of Horticultural crops

a. Fruit Crops

Today's changing food pattern enhances the area expansion under fruits. The preferable choices of fruits are Mango, Banana, Grapes, Orange, Guava, Pomegranate, Papaya, Sapota etc. Fruits are rich in fiber which is very essential for the smooth movement of the digestive system. There are some fruits that give body energy as they contain carbohydrates which are the main source of energy. Carbohydrates in fruits are mainly sugar which actually breaks down easily and make a quick source of energy. They also contain minerals, vitamins and nutrients that are useful for a healthy life. Considering the importance of fruits, the productivity can be increased by promotion of cultivation of fruit crops in the potential areas.

b. Vegetable crops

Vegetables are the store houses of most of the vitamins and minerals and also proteins. In order to ensure continuous supply of fresh vegetables to the burgeoning urban markets, it is absolutely necessary to create forward linkages from rural to urban areas. This will also ensure assured income to farmers in the rural areas adjoining the cities. Cultivation of vegetables, formation of farmer clusters, formation of farmers society, collection centers, reefer vans, retail outlets, mobile stores are the components to be promoted for increasing the productivity and marketing vegetable crops like brinjal, Bhendi, chillies, root vegetables, bulbs are planned to increase the productivity through area expansion.

c. Flower crops

The major flowers grown are Gundumalli, Mullai, Rose, Crossandra, Chrysanthemum, Marigold, Tuberose, Arali, Jathimalli etc. Floriculture activity has evolved as a viable and profitable alternative, with a potential to generate remunerative self-employment among small & marginal farmers. The flower crops require lots of manpower for picking flowers and perform other operations, hence providing opportunity to marginal and small farmers for generating more income, employment and promote greater involvement of women work force. Keeping this in mind, the promotion area of cultivation of traditional and cut flowers are planned for different flower crops.

d. Medicinal and Aromatic plants

Spice crops play a unique role in India's economy by improving the income of the rural people. Cultivation of spices is labor intensive so it can generate lot of employment opportunities for the rural population. The demand of Indian spice is very much in other countries. Hence, production of spices has very much scope to meet that demand by huge production.

e. Plantation crops

Plantation crops are high value commercial crops of greater economic importance and play a vital role in our Indian economy. This crop helps to conserve the soil and ecosystem. The crops include tea, coffee, rubber, cocoa, coconut, arecanut, oil palm, palmyrah, cashew, cinchona etc., Hence, the promotion of cultivation of plantation crops in the potential districts will increase the economy of the farmer and also Indian economy.

Improving Infrastructural facilities for production

To increase the income of the horticultural farmers, support for the establishment of pandals, trellies, staking and propping polygreen houses, (tubular structure) have to be provided. Vegetables like bitter gourd, snake gourd, ribbed gourd, pandal avarai, pole beans, tomato, gherkin, cucumber, squash and in fruits grapes, musk melons and in spices pepper etc could be cultivated under pandal cultivation. Similarly, crops like peas, musk melon, pole beans, tomatoes, ivy gourd could be raised in trellies. High value vegetables like capsicum, beans and flowers like carnation, roses etc could be raised in poly houses.

Plantation Management

The existing fruit trees have to be maintained properly until they attain fruit bearing stage and thereafter up to economically profitable bearing stage. This calls for proper maintenance of fruit trees with appropriate intercultural operations periodically. Regular maintenance of orchards / fruit trees would enhance the production / productivity as well.

Area expansion by Precision Farming Technology

By providing inputs like water soluble fertilizers, hybrid / high yielding vegetable seeds and plant protection chemicals, the area under annual crops like vegetables, flowers, spices, medicinal plants and one year long season crops like banana, tapioca, annual moringa and turmeric could be raised through precise application of fertilizer and chemicals under precision farming technology.

Area expansion by high density planting

By adopting high density planting in mango, guava and sapota, the area under fruit trees could be increased. This includes supply of pedigree planting materials, integrated nutrient management and integrated pest management.

Area expansion by Normal Planting

Besides precision farming and high density planting, the area could also be increased by normal planting as well by using pedigree planting materials in fruits, spices, flowers and plantation crops. Similarly, by extending support for the planting materials of high value vegetables, the protected cultivation of vegetable area could also be increased. Likewise, cultivation of cut flowers and filler foliage also need to be encouraged.

Protected cultivation

It is proposed to plan for increasing the production of crops by adopting advanced technology like high tech cultivation practices which includes high density planting, use of quality planting materials, tissue culture planting materials, canopy management, micro irrigation fertigation, mulching, use of bunch sleeves for banana, protected cultivation, shade net nursery and mechanization in horticulture crop cultivation by popularizing the same among the growers to enhance productivity.

Rejuvenation of Old Orchards

In general, 40-45 years old mango trees exhibit decline in fruit yield because of dense and overcrowded canopy. The trees do not get proper sunlight resulting in decreased production of shoots. New emerging shoots are weak and are unsuitable for flowering and fruiting. The population of insects and pests builds up and the incidence of diseases increases in such orchards. These unproductive trees can be converted into productive ones by pruning with the techniques developed. Similarly, a procedure to rejuvenate and restore the production potential of old unproductive and wilt affected guava orchards has been developed, which employs pruning of branches at different periodicity and at different severities. Crowding and encroachment of guava trees with subsequent inefficient light utilization is an obvious problem with older orchards, if trees are not well managed. The internal bearing capacity of guava trees also decreases with time, due to overshadowing of internal bearing wood.

Organic farming

Organic farming is an alternative agricultural system which originated early in the 20th Century in reaction to rapidly changing farming practices. It relies on fertilizers of organic origin such as compost, manure, green manure, and bone meal and places emphasis on techniques such as crop rotation, companion planting. Biological pest control, mixed cropping and fostering of insect predators are encouraged. Since 1990, the market for organic food and other products has grown rapidly, reaching $63 billion worldwide in 2012. This demand has driven a similar increase in organically managed farmland that grew from 2001 to 2011 at a compounding rate of 8.9 per cent per annum. As of 2011, approximately 3.70 lakh hectares worldwide were farmed organically, representing approximately 0.9 per cent of total world farmland. Organic farming encourages crop diversity. The science of agro ecology has revealed the benefits of polyculture (multiple crops in the same space), which is often employed in organic farming. Planting a variety of vegetable crops supports a wider range of beneficial insects, soil microorganisms and other factors that add up to overall farm health. Crop diversity helps environments thrive and protects species from going extinct. The profitability of organic agriculture can be attributed to a number of factors. First, organic farmers do not rely on synthetic fertilizer and pesticide inputs, which can be costly. In addition, organic foods currently enjoy a price premium over conventionally produced foods, meaning that organic farmers can often get more for their yield.

Post-Harvest Management

In agriculture, postharvest handling is the stage of crop production immediately following harvest, including cooling, cleaning, sorting and packing. Postharvest treatment largely determines final quality, whether a crop is sold for fresh consumption, or used as an ingredient in a processed food product. The most important goals of post-harvest handling is to avoid moisture loss and slow down undesirable chemical changes and avoiding physical damage such as bruising, to delay spoilage. The post harvest loss can be avoided by establishment of pack house, storage structure, drying yard, collecting centre and mobile vending cart.

Capacity building

Capacity building of Horticultural Officers and Farmers

Providing service training of horticultural officers regularly would help them to update the modern technologies in production, marketing and value addition of horticultural crops including organic farming. Similarly, exposure visits to farmers to nearby districts / States and even foreign countries would help them aware and adopt new innovative technologies.

Bee Keeping

Production of honey in the country reached 10,000 tons, valued at about Rs.300 million. Bee-Keeping Industry is one of the important activities. The Government provides financial support to this Industry by way of providing grant for supply of bee-hives to the Tribal on hill areas, Scheduled Castes /Scheduled Tribes under Western Ghats Development Programmes. The income earned by the farmers through bee-keeping activities is an additional income to their agriculture income. Honey industry in the country can well become a major foreign exchange earner if international standards are met. Beekeeping is an age-old tradition in India but it is considered a no-investment profit giving venture in most areas. Of late, it has been recognized that it has the potential to develop as a prime agri-horticultural and forest-based industry. Honey production is a lucrative business and it generates employment.

Apiary honey is produced in bee hives and is harvested by extraction in honey extractors. Other types of beekeeping equipment like queen excluder, smoker, hive tool, pollen trap and honey processing plant are also used. Indian honey has a good export market. With the use of modern collection, storage, beekeeping equipment, honey processing plants and bottling technologies, the potential export market can be tapped.

Mechanization in cultivation of horticultural crops

Mechanization encourages large scale production and improves the quality of farm produce. It ensures reduction of drudgery associated with variety of farm operations and also encourages the utilization of input and thereby harnessing the potential of available resources. Provision of power operated machineries and tools including power operated saw and plant protection equipments, power machines with rotavator / equipment, power machines including accessories and equipment would strengthen the infrastructural facilities.

Micro Irrigation, Water harvesting and Management

With increasing demand on water from various sectors, the availability of water is under severe stress. Agriculture sector is the largest use of water. While irrigation projects (Major and medium) have contributed to the development of water resources, conventional methods of irrigation are inefficient and lead to wastage of water. It has been recognized that the use of modern irrigation methods like drip and sprinkler irrigation are the ways for the efficient use of surface as well as ground water resources.

Majority of fruit trees / orchards are under rainfed cultivation. It is advisable to bring a minimum percentage of the area under irrigation by providing and strengthening the water harvesting system. This includes provision of drip irrigation facilities wherever possible, recharge of defunct bore wells, provision of pipes and protected distribution system, provision of water lifting devices, Insitu water conservation and the like.

Production Enhancement through Precision Farming

Farmers have experienced fruitful results of technology especially during the past five years. Hence, further increase in the production of horticultural crops would be possible both by increasing area and productivity by adopting advanced technologies like precision farming, high density planting, protected cultivation, shade net nursery, integrated pest management and integrated nutrient management. Besides increasing infrastructure and mechanization facilities, productivity enhancement is considered by area expansion and resorting to high tech cultivation practices. Annual crops like vegetables, flowers, spices, medicinal plants and one year long season crops like banana, tapioca, turmeric and annual moringa could be considered for expansion by precision farming technology and providing assistance for inputs like water soluble fertilizers, hybrid/ high yielding vegetable seeds, plant protection chemicals etc., with subsidy.

Pandal / Trellis cultivation, Propping / Support / Staking

Pandal vegetables being short duration crops fit very well in the cropping system by offering viable option to the growers to get increased income per unit area. However, the cultivation of vegetables is too constrained due to high initial investment cost. With the objective of enhancing area under pandal vegetables and encouraging farmers to realize increased income, this project is proposed by popularizing high yielding/hybrid seed materials and dissemination of improved method of cultivation to farmers. It is proposed to cover at least 500 hectares in crops like bitter gourd, ribbed gourd, snake gourd, pandal beans etc.

Banana Bunch Sleeve

'Bunch care techniques' are to be followed in banana cultivation to achieve the best quality. Transparent polyethylene sleeves are recommended to cover the bunch immediately after opening of the last hand. Using of opaque polythene covers / sleeves gauge (during winter) and paper bags (to avoid chilling injury at frost conditions and sun scrotch). The bunch will be free from insect bites, fungi, bacteria attacks and physical injuries. The cover will also improve bunch appeal and maturity of bunch will be advanced by 7 to 10 days.

Agro Ecosystem Analysis (AESA) based IPM

The IPM has been evolving over the decades to address the deleterious impacts of synthetic chemical pesticides on environment ultimately affecting the interests of the farmers. The economic threshold level (ETL) was the basis for several decades but in modern IPM emphasis is given to AESA where farmers take decisions based on larger range of field observations. Decision making in pest management requires a thorough analysis of the agro-ecosystem. Farmer has to learn how to observe the crop, how to analyze the field situation and how to make proper decisions for their crop management. This process is called the AESA. In AESA based IPM emphasis is given to natural enemies, plant compensation ability, abiotic factors and P: D ratio.

Promotion of Roof top Garden / Potager garden

The traditional kitchen garden, also known as a potager is a space separate from the rest of the residential garden i.e. the ornamental plants and lawn areas. Most vegetable gardens are still miniature versions of old family farm plots, but the kitchen garden is different not only in its history, but also its design. The kitchen garden may serve as the central feature of an ornamental, all-season landscape, or it may be little

more than a humble vegetable plot. It is a source of herbs, vegetables and fruits, but it is often also a structured garden space with a design based on repetitive geometric patterns. The kitchen garden has year-round visual appeal and can incorporate permanent perennials or woody shrub plantings around the annuals.

There are many types of vegetable gardens. The potager, a garden where vegetables, herbs and flowers are grown together, has become more popular than the more traditional rows or blocks.

Some popular culinary herbs in temperate climates are to a large extent still the same as in the medieval period. Herbs often have multiple uses. For example, mint may be used for cooking, tea, and pest control.

Onion Storage Structures

India is one of the largest producers of onion in the world. It is one of the most important vegetable crops of our country and forms a part of daily diet in almost all households. In Tamil Nadu onion was grown in an area of about 35,000 ha with a production of 3,80,000 tons. Most of the farmers bring onion directly to the market after harvest as proper storage facilities are not available with them. The present storage capacities are quite inadequate and most of the available units are traditional and unscientific.

Establishment of Mushroom unit

Mushrooms have been valued throughout the world as both food and medicine for thousands of years. They are a rich source of nutrition and form a major chunk of health foods. Earlier mushroom eating was restricted to specific regions and areas of the world but due to globalization, interaction between different cultures, growing consumerism has ensured the accessibility of mushrooms in all areas. Mushrooms are increasingly gaining acceptance in different Cusines and in everday consumption. They have created a space in a common man’s kitchen. Also, current trend of consumption conveys the opportunity that lies in the area of mushroom exports.

Rainfed Area Development Programme (RADP)

Rainfed areas assume special significance in terms of ecology, agricultural productivity and livelihood for millions of rural households in India. To ensure agriculture growth in the rainfed areas, the Government of India launched a new scheme “Rainfed Area Development Programme (RADP)” in the year 2011-12 as a sub-scheme under

Rashtriya Krishi Vikas Yojana (RKVY). It aims at improving quality of life of farmers especially, small and marginal farmers by offering a complete package of activities to maximize farm returns. RADP focuses on Integrated Farming System (IFS) for enhancing productivity and minimizing risks associated with climatic variabilities.

Establishment of Processing Units

Tamil Nadu produces nearly 110 lakh tones of vegetables and fruits but it has only 136 cold storage locations with a capacity of 2.3 lakh tonnes which is shared amongst marine, milk and agro produce. The combined capacity is small as compared to required capacity. Further it has been reported that nearly 30 per cent of the horticultural crops produced are wasted due to rotting and in the post-harvest supply chain of storage and handling. Reducing this wastage calls for conversion of value added horticultural crops, fruits and flowers. Hence, it has been programmed to establish horticultural processing unit and essential oil extraction unit.

Crop Insurance

Crop Insurance coverage has to be done for major crops like paddy, millets, pulses, oilseeds, sugarcane, cotton, cash crops and all Horticulture crops in the notified areas.

Horticultural mechanization

With increasing agricultural labour Shortage in India, a calculated shift to mechanization is imperative. Not only does mechanization provide for optimal utilization of factor resources (viz., land, labour, water, capital and expensive farm inputs), it also helps farmers to save valuable time and effort. Judicious use of time, labour and resources helps facilitate sustainable intensification (multi-cropping) and timely planting of crops and towards giving crops more time to mature, leading to improved productivity.

Micro irrigation in horticultural crops

Micro-irrigation will generally use less than half the volume of water required by the more traditional ‘watering’ systems such as sprinkler irrigation. Lower pressures used mean less energy for pumping while precise placement of more exact water volumes enhances and improves water management. Micro Irrigation system scales down requirement of labour and takes care of application of fertilizers.

Conducting Field Days / Shows and Farmer's mela

Regular training programmes on relevant topics for Upgradation of knowledge and skill of extension functionaries of development department and farmers are essential. Apart from this, exhibition, horticulture show, Farmers' Mela, Field Days in farmer's field and Frontline Demonstrations to demonstrate technologies are to be regularly conducted.

Budget

The budget requirement for fulfilling the various interventions is ₹ **22247.44** lakhs. The details of budget requirement for each intervention across the blocks are shown in Table.

Implementingagency

The projects will be implemented by the Department of Horticulture and plantation crops. The progress of the project will be monitored by Director of Horticulture and plantation crops and state nodal agency.

Table 4.18. Budget requirement for increasing productivity of Horticultural crops

(₹in lakhs)

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
A	**Production Growth**															
I	**Area expansion of fruit crops**															
1	TC Banana & TC Pineapple	Ha	1.25	B12,B10,B8,B7, B11,B6,B18,B5, B2,B3,B19,B12, B4,B16,B1	55	68.75	62	77.50	69	86.25	72	90.00	76	95.00	334	417.50
2	Banana / Hill Banana sucker & Pine apple sucker	Ha	0.875	B20,B10,B15,B2, B3,B4	64	56.00	72	63.00	82	71.75	84	73.50	88	77.00	390	341.25
3	UHDP in Papaya, Mango, Guava, Pomegranate, Acidlime	Ha	1.25	B1,B16,B4,B12, B2,B18,B15,B12	20	25.00	23.5	29.38	23.5	29.38	27	33.75	29	36.25	123	153.75
4	HDP in Mango, Guava, Litchi, Pomegranate	Ha	1	All Blocks Except B11,B13,B14,B17 ,B19,B20	57	57.00	62	62.00	72	72.00	75	75.00	82	82.00	348	348.00
5	Area expansion fruits with traditional varieties	Ha	0.6	B15,B6,B2,B3,B1 9,B12,B4,B16,B1	9	5.40	10	6.00	10	6.00	11	6.60	11	6.60	51	30.60
6	Normal Planting in lime / lemons	Ha	0.6	B2,B7	3	1.80	3	1.80	3	1.80	3	1.80	3	1.80	15	9.00
7	Normal Planting in Mango	Ha	0.6	All Blocks Except B5,B13,B14,B17, B18,B20	57	34.20	62	37.20	67	40.20	71	42.60	75	45.00	332	199.20
8	Normal planting in Guava	Ha	0.6	B12,B6,B2,B12, B16,B1	19	11.40	19	11.40	19	11.40	18	10.80	18	10.80	93	55.80
9	Normal planting in Sapota	Ha	0.6	B2,B6,B7	4	2.40	4	2.40	4	2.40	4	2.40	4	2.40	20	12.00
10	Normal planting in Amla	Ha	0.6	B2	2	1.20	2	1.20	2	1.20	2	1.20	2	1.20	10	6.00
11	Normal planting in Papaya	Ha	0.6	B12,B10,B6,B3, B2,B12,B1	24.6	14.76	24.6	14.76	25.8	15.48	26.8	16.08	27	16.20	128.8	77.28

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
12	Normal planting in Jack	Ha	0.6	B2,B20	5	3.00	6	3.60	6	3.60	6	3.60	6	3.60	29	17.40
13	Normal planting in Pomegranate	Ha	0.6	B4,B2,B7,B6,B15	6	3.60	5	3.00	6	3.60	6	3.60	7	4.20	30	18.00
14	Normal planting in Avacado	Ha	0.6	B20	1	0.60	1	0.60	2	1.20	2	1.20	2	1.20	8	4.80
15	Banana for leaf production	Ha	0.6	B2,B4,B6	17	10.20	18	10.80	19	11.40	15	9.00	19	11.40	88	52.80
16	Commercial production of choice fruits (Kiwi, Mangoosteen, Rambutan, Fig, Date palm, Durian, Carambola, Dragon fruit,Passion Fruit, Kiwi, Grapes, Strawberry, etc.,)	Ha	1.25	B20	1	1.25	1	1.25	1	1.25	1	1.25	1	1.25	5	6.25
17	Commercial production of Traditional fruits (Woodapple, Manila Tamarind, Jamun, Ber, Karonda, Annona, Egg fruit, etc.,)	Ha	0.6	B15,B10,B6,B7, B2,B19,B12,B4, B16	12	7.20	12	7.20	16	9.60	18	10.80	22	13.20	80	48.00
II	**Area expansion of vegetable crops**															
18	Brinjal	Ha	0.5	All Blocks Except B17,B20	71	35.50	79	39.50	90	45.00	98	49.00	104	52.00	442	221.00
19	Bhendi	Ha	0.5	All Blocks Except B20	102	51.00	108	54.00	113	56.50	118	59.00	115	57.50	556	278.00
20	Green Chillies	Ha	0.5	B10,B9,B6,B7,B5, B17,B3,B18,B2, B19,B16,B1	50	25.00	54	27.00	61	30.50	65	32.50	67	33.50	297	148.50
21	Tomato	Ha	0.5	All Blocks Except B8,B14,B20	119	59.50	126	63.00	138	69.00	153	76.50	157	78.50	693	346.50

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
22	Gourds including pumpkin and tinda	Ha	0.5	B15,B10,B7,B11, B17,B3,B2,B19, B12,B16,B1	33.5	16.75	36.5	18.25	41	20.50	45	22.50	47	23.50	203	101.50
23	Peas & Beans	Ha	0.5	B2,B12	12	6.00	12	6.00	12	6.00	12	6.00	12	6.00	60	30.00
24	Greens	Ha	0.5	B12,B15B6,B7,B17,B2,B19,B13,B4, B1	33	16.50	37	18.50	39	19.50	45	22.50	48	24.00	202	101.00
25	Small Onion	Ha	0.5	All Blocks Except B17,B20	107	53.50	115	57.50	129	64.50	138	69.00	143	71.50	632	316.00
26	Bellary Onion	Ha	0.5	B6,B2,B1	4	2.00	4	2.00	3	1.50	3	1.50	3	1.50	17	8.50
27	Cauliflower	Ha	0.5	B2,B20	2	1.00	2	1.00	2	1.00	2	1.00	2	1.00	10	5.00
28	Annual Moringa	Ha	0.5	B1,B2,B6	5	2.50	5	2.50	6	3.00	6	3.00	4	2.00	26	13.00
29	Cabbage	Ha	0.5	B2,B12,B20	7	3.50	7	3.50	7	3.50	7	3.50	7	3.50	35	17.50
30	Cucumber/gherkin	Ha	0.5	B1,B2	3	1.50	3	1.50	2	1.00	2	1.00	2	1.00	12	6.00
31	Potato	Ha	0.5	B2	1	0.50	1	0.50	1	0.50	1	0.50	1	0.50	5	2.50
32	Caroot	Ha	0.5	B2,B12,B20	4	2.00	4	2.00	4	2.00	4	2.00	4	2.00	20	10.00
33	Lab Lab	Ha	0.5	B2,B18,B20	6	3.00	6	3.00	6	3.00	6	3.00	6	3.00	30	15.00
34	Chowchow	Ha	0.5	B2,B20	3	1.50	3	1.50	3	1.50	3	1.50	4	2.00	16	8.00
35	Radish	Ha	0.5	B20,B12,B6,B18, B2,B16	17	8.50	18	9.00	20	10.00	21	10.50	68	34.00	144	72.00
36	Melons	Ha	0.5	B15,B18,B2,B12, B1	9	4.50	9	4.50	11	5.50	11	5.50	11	5.50	51	25.50
37	Coccinea	Ha	0.5	B2	1	0.50	1	0.50	1	0.50	1	0.50	1	0.50	5	2.50
38	Cluster bean	Ha	0.5	B7,B17,B18,B2	23	11.50	23	11.50	23	11.50	26	13.00	28	14.00	123	61.50
39	Beetroot	Ha	0.5	B2,B20	2	1.00	2	1.00	2	1.00	2	1.00	2	1.00	10	5.00
40	Tapioca	Ha	0.5	All Blocks Except B1,BB5,B20	503	251.50	563	281.50	639	319.50	699	349.50	731	365.50	3135	1567.50
41	Yams and colacassia	Ha	0.5	B12,B2,B4,B16	12	6.00	12	6.00	12	6.00	12	6.00	12	6.00	60	30.00
42	Sweet potato	Ha	0.5	B2	1	0.50	1	0.50	1	0.50	1	0.50	1	0.50	5	2.50

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
43	Commercial production of choice vegetables (Bread fruit, Brussels sprout, Brocolli, Spring Onion, Knol Khol, Turnip, Winged Bean, Butter Bean, Chinese Cabbage, Lettuce, Leek, Porum, etc.,	Ha	0.5	B2,B20	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	7.5	3.75
44	Commercial production of location specific traditional vegetables (Athalakkai, Palu Pavakkai, Mullu kathiri, Poiyur kathiri, Kottapatti kathiri etc.,)	Ha	0.5	B2	1	0.50	1	0.50	1	0.50	1	0.50	1	0.50	5	2.50
45	Cultivation of hybrid Vegetables under protected structures	1000 Sq.m	1.4	B2,B20	2	2.80	3	4.20	4	5.60	6	8.40	6	8.40	21	29.40
III	**Area expansion of Medicinal and Aromatic plants**															
46	Aloe vera	Ha	0.5081	B4	1	0.51	1	0.51	1	0.51	1	0.51	1	0.51	5	2.54
47	Neem	Ha	0.4483	B2	1	0.45	1	0.45	1	0.45	1	0.45	1	0.45	5	2.24
48	Amla	Ha	0.7771	B2,B7	4	3.11	5	3.89	5	3.89	6	4.66	9	6.99	29	22.54
49	Gloriosa	Ha	1.6438	B3,B7	25	41.10	26	42.74	26	42.74	26	42.74	27	44.38	130	213.69
50	Coleus	Ha	0.5141	B2,B4,B1,B16, B12,B18	141	72.49	148	76.09	165	84.83	171	87.91	177	91.00	802	412.31
51	Ocimum	Ha	0.3586	B2,B7	5.5	1.97	5.5	1.97	5.5	1.97	8.5	3.05	10.5	3.77	35.5	12.73
52	Vettiver	Ha	0.3	B2	1	0.30	1	0.30	1	0.30	1	0.30	1	0.30	5	1.50

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
53	Mint	Ha	0.15	B1,B2	2.5	0.38	2.5	0.38	2.5	0.38	2.5	0.38	2.5	0.38	12.5	1.88
IV	**Area expansion of Spices crops**															
54	Seed and Rhizomatic spices (Coriander, Turmeric, Ginger, Dry Chilly, Cumin, Fennel, Fenu greek, Dil, Cardamom etc.,)	Ha	0.3	All Blocks Except B4,B5,B17,B19	386	115.80	391	117.30	509	152.70	509	152.70	313	93.90	2108	632.40
55	Perennial spices (Pepper, Curry leaf, All spice, Cinnamon, Clove, Tamarind, Nut meg etc.,)	Ha	0.5	B2,B12,B16,B20	31	15.50	31	15.50	31	15.50	31	15.50	31	15.50	155	77.50
56	Bulbous spices Garlic	Ha	0.5	B2	1	0.50	1	0.50	1	0.50	1	0.50	1	0.50	5	2.50
V	**Area expansion of Flower crops**															
57	Loose flowers - Jasminum sp, Crossandra, Marigold, Rose, Chrysanthemum, Nerium, Torenia	Ha	0.4	All Blocks Except B3,B6,B8,B10, B16,B19	95	38.00	106	42.40	109	43.60	114	45.60	114	45.60	538	215.20
58	Bulbous flowers - Tube rose, Gladioli, Dahlia, Bird of paradise, Heliconia, Tulip	Ha	1.5	B12,B8,B2,B13	21	31.50	20	30.00	22	33.00	22	33.00	24	36.00	109	163.50
59	Cost of planting material & cultivation of Orchid, Eustoma & Anthurium under poly house / Shade net house	1000 Sq.m	7	B20	1	7.00	1	7.00	1	7.00	1	7.00	1	7.00	5	35.00
60	Cost of planting material & cultivation of carnation & Gerbera under poly house /	1000 Sq.m	6.1	B20	0.5	3.05	1	6.10	1	6.10	1	6.10	1	6.10	4.5	27.45

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
	Shade net house															
61	Cost of planting material & cultivation of Rose, Lilium, under poly house / Shade net house	1000 Sq.m	4.26	B20	0.5	2.13	0.5	2.13	0.5	2.13	0.5	2.13	0.5	2.13	2.5	10.65
VI	**Area expansion /Gap filling of Plantation crops**															
62	Coffee	Ha	0.5	B20	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
63	Cocoa	Ha	0.5	B2,B6	6	3.00	6	3.00	6	3.00	6	3.00	6	3.00	30	15.00
64	Cashew	Ha	0.5	B4	3	1.50	5	2.50	5	2.50	6	3.00	6	3.00	25	12.50
65	Arecanut	Ha	0.5	B18,B12,B11,B2, B13,B3,B4	29	14.50	34	17.00	36	18.00	39	19.50	41	20.50	179	89.50
66	Coconut	Ha	0.5	B4,B5,B8,B15	29	14.50	41	20.50	53	26.50	61	30.50	68	34.00	252	126.00
VII	**Rejuvenation/INM-IPM/Mulching/Anti bird net**															
67	Mango/Cashew - Rejuvenation	Ha	0.4	B8,B11,B10,B15, B5,B7,B3,B2,B12, B4,B16,B1	88	35.20	94	37.60	99	39.60	104	41.60	105	42.00	490	196.00
68	INM/IPM for Horticultural crops	Ha	0.04	B8,B11,B9,B15,B 10,B5,B6,B2,B19, B12,B4,B14	125	5.00	137	5.48	142	5.68	157	6.28	163	6.52	724	28.96
69	Mulching	Ha	0.32	All Blocks Except B20	126	40.32	137	43.84	142	45.44	146	46.72	149	47.68	700	224.00
70	Anti Bird net	1000 Sq.m	0.35	B2	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
VIII	**Pollination Support through Bee Keeping**															
71	Bee hive & Colony	No	0.04	All Blocks	565	22.60	601	24.04	624	24.96	631	25.24	658	26.32	3079	123.16

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
72	Honey Extractor	No	0.2	All Blocks	72	14.40	75	15.00	78	15.60	78	15.60	81	16.20	384	76.80
IX	**Organic Farming**															
73	Organic farming and PGS certification in 50 acre cluster	1 cluster	14.95	B4,B6	1	14.95	1	14.95	2	29.90	1	14.95	1	14.95	6	89.70
74	HDPE Vermibed	No	0.16	All Blocks Except B16,B17,B18,B20	37	5.92	34	5.44	36	5.76	43	6.88	45	7.20	195	31.20
X	**Rainfed Area development**															
75	Integrated farming system - Horticulture Based farming	Ha	0.5	B15,B8,B7,B5,B9, B10,B2,B6,B17, B3,B18,B12,B4, B16	91	45.50	93	46.50	99	49.50	104	52.00	106	53.00	493	246.50
76	Green manuring	Ha	0.04	B15,B8,B10,B6, B2,B7,B3,B12,B4	39	1.56	41	1.64	45	1.80	47	1.88	51	2.04	223	8.92
77	Moisture stress management - Minimum irrigation gurantee by PUSA hydrogel	Ha	0.1	All Blocks	500	50.00	501	50.10	502	50.20	572	57.20	583	58.30	2658	265.80
B	**Infra structures and Assets creation**															
I	**Protected cultivation**															
1	Poly Green House	1000 Sq.m	9.35	B1,B19,B2,B20, B9,B12,B14	9	84.15	4	37.40	5.5	51.43	6.5	60.78	7.5	70.13	32.5	303.88
2	Shadenet	1000 Sq.m	7.1	B16,B3,B20,B15, B2,B9,B6,B7,B12, B5,B13,B17,B18, B4,B1	15.5	110.05	16.6	117.86	15.2	107.92	17.8	126.38	18.4	130.64	83.5	592.85
II	**Mushroom production**															
3	Mushroom production and compost making	1 No.	20	B4	1	20.00	1	20.00	1	20.00	1	20.00	1	20.00	5	100.00
4	Cottage mushroom unit	1 No.	1	B20	1	1.00	1	1.00	1	1.00	1	1.00	1	1.00	5	5.00

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
III	**Vermicompost unit**															
5	Permanent Vermicompost Unit	600 cu.ft	1	B2,B19,B3,B6,B7, B12,B16,B13,B4	8	8.00	5	5.00	7	7.00	7	7.00	10	10.00	37	37.00
IV	**Supporting structures for Horticulture crop production**															
6	Staking/ Trellies/ Propping	Ha	1	B1,B16,B4,B2, B18,B6,B10,B11, B3,B9,B7	84	84.00	86	86.00	98.5	98.50	102.5	102.50	112.5	112.50	483.5	483.50
7	Permanent Pandhal structure	Ha	4	All Blocks Except B18	25.5	102.00	28	112.00	28	112.00	30	120.00	30	120.00	141.5	566.00
C	**Special interventions**															
8	Farm deficiency correction	Ha	0.04	All Blocks Except B4	1225	49.00	1340	53.60	1385	55.40	1450	58.00	1500	60.00	6900	276.00
9	Promotion of Roof top Garden/ Potager garden Kit	No	0.005	B15,B10,B8,B6, B9,B11,B7,B19, B12,B16,B1	545	2.73	570	2.85	590	2.95	605	3.03	625	3.13	2935	14.68
10	Promotion of Roof top Garden/ Potager garden Kit with shadenet	No	0.0735	B10,B9,B6,B19,B 12,B1	42	3.09	48	3.53	53	3.90	58	4.26	60	4.41	261	19.18
11	Banana Bunch Sleeve	Ha	0.25	B6,B3,B2,B12,B1	81	20.25	82	20.50	89	22.25	85	21.25	89	22.25	426	106.50
12	AESA based IPM in fruits and vegetables Pheramone trap	Ha	0.04	B15,B8,B10,B9, B5,B11,B7,B3, B18,B2,B19,B12, B4,B16,B1,B14	290	11.60	300	12.00	306	12.24	310	12.40	313	12.52	1519	60.76
13	AESA Based IPM in fruits and vegetables Yellow sticky trap	Ha	0.04	All Blocks Except B6,B13,B17,B20	318	12.72	319	12.76	325	13.00	338	13.52	340	13.60	1640	65.60
14	AESA Based IPM in fruits and vegetables Light trap	Ha	0.08	B15,B8,B10,B9, B5,B11,B7,B3, B18,B2,B19,B12, B4,B16,B1,B14	291	23.28	301	24.08	298	23.84	310	24.80	313	25.04	1513	121.04

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
D	**Post Harvest Management**															
15	Pack house (9m X 6m)	1 No	4	B6,B7,B3,B2,B12, B13,B4,B16	6	24.00	4	16.00	4	16.00	8	32.00	6	24.00	28	112.00
16	Low cost onion structure 25 mt	1 No	1.75	B6,B3,B2,B12,B4, B16,B1	7	12.25	8	14.00	9	15.75	8	14.00	8	14.00	40	70.00
17	Drying yard	1 No	5	B2	10	50.00	10	50.00	10	50.00	10	50.00	10	50.00	50	250.00
18	Collection centre	1 No	15	B2	1	15.00	1	15.00	1	15.00	1	15.00	1	15.00	5	75.00
19	Market intervention - Mobile venindg cart	1 No	0.3	B2,B20	7	2.10	7	2.10	7	2.10	7	2.10	7	2.10	35	10.50
E	**Development of Farms, Nurseries and Parks**															
20	Developmental activities in new/ exsisting state Horticultural farm, Keelapalur	No	25	B1,B20	0	0.00	0	0.00	0	0.00	1	25.00	1	25.00	2	50.00
F	**Mechanization - Machineries, Equipments & Tools**															
21	Power tiller/Tractor/Minitractor	Nos	1	B3,B15,B12,B7, B9,B17,B6,B11, B18,B2,B13,B16, B4,B1	17	17.00	20	20.00	19	19.00	21	21.00	18	18.00	95	95.00
22	Land development, tillage and seed bed preparation equipments	Nos	0.3	B2,B7	5	1.50	5	1.50	5	1.50	5	1.50	6	1.80	26	7.80
23	Manual Sprayer-Knapsack/Foot operated Sprayer	Nos	0.12	B20,B7,B6,B11, B2,B19,B12,B4, B1,B14	52	6.24	54	6.48	55	6.60	56	6.72	59	7.08	276	33.12
24	Post Hole Digger/Augur, Pneumatic/ other Planter		1.26	B2	2	2.52	2	2.52	2	2.52	2	2.52	2	2.52	10	12.60

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
25	Fruit Plucker, Tree pruners, Fruit Harvester, Fruit Graders, Track Trolley, Nursery Media Filling Machine, Power operated horticulture tools for pruning, budding, grating, shearing etc.	No	2.5	B2,B9	2	5.00	2	5.00	2	5.00	3	7.50	2	5.00	11	27.50
26	Mulch laying machine	No	0.7	B6	0	0.00	0	0.00	1	0.70	0	0.00	0	0.00	1	0.70
27	Hand operated sprayer with face mask	Nos	0.025	B2,B4,B6,B9	29	0.73	29	0.73	30	0.75	30	0.75	30	0.75	148	3.70
28	Nets for safe harvesting of fruits,Headlights for flower picking	Nos	0.005	B1,B2,B12	145	0.73	150	0.75	150	0.75	150	0.75	160	0.80	755	3.78
29	Power operated sprayer	Nos	0.05	B15,B12,B20,B9, B10,B3,B6,B5,B7, B18,B2,B4, B16	60	3.00	65	3.25	67	3.35	74	3.70	75	3.75	341	17.05
30	Plastic crates for vegetable & fruits handling	No of sets containing 10crates	0.075	All Blocks Except B8,B14,B17,B20	168	12.60	173	12.98	175	13.13	178	13.35	182	13.65	876	65.70
31	Turmeric Boiler		2.5	B2,B4	11	27.50	11	27.50	11	27.50	11	27.50	11	27.50	55	137.50
32	Turmeric Polishing Machine		0.88	B2,B4	3	2.64	3	2.64	3	2.64	3	2.64	3	2.64	15	13.20
33	Oil engine	No	0.15	B4,B6,B12,B20	18	2.70	18	2.70	18	2.70	18	2.70	18	2.70	90	13.50
34	5 layered Polythene spread sheets for drying horticulture produce	No	0.16	All Blocks Except BB4,B5,B14,B17, B18,B20	113	18.08	113	18.08	116	18.56	116	18.56	115	18.40	573	91.68

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
35	Aluminium Ladders for Harvesting	No	0.2	B20,B10,B6,B7, B2,B19,B1	51	10.20	51	10.20	52	10.40	52	10.40	54	10.80	260	52.00
36	Equipments for manure management (Motorized Shredder for cutting biomass for making Vermicomposts and organic mulching)	No	1.26	B2,B3	11	13.86	10	12.60	10	12.60	10	12.60	11	13.86	52	65.52
G	**Water / Irrigation Management**															
37	Micro Irrigation - Drip	Ha	1.12	All Blocks Except B20	1359	1522.08	1467	1643.04	1551	1737.12	1655	1853.60	1708	1912.96	7740	8668.80
38	Rain gun	Ha	0.34	B12,B9,B15,B6, B3,B7,B2,B4,B1	89	30.26	95	32.30	100	34.00	110	37.40	125	42.50	519	176.46
39	Sprinkler	No	0.195	B12,B9,B15,B8, B11,B6,B7,B3,B17,B18,B2,B12,B4, B16,B1	259	50.51	269	52.46	290	56.55	310	60.45	426	83.07	1554	303.03
40	Water harvesting system for individuals	No	1.5	B3,B7	2	3.00	2	3.00	2	3.00	2	3.00	2	3.00	10	15.00
H	**Capacity Building**															
41	Training to farmers within the State. 2 days Rs.1000/farmer/day	No	0.02	All Blocks Except B4	377	7.54	377	7.54	392	7.84	387	7.74	397	7.94	1930	38.60
42	Training to farmers outside the state. 30 farmers/Batch	No	0.105	All Blocks Except B13,B14,B17	67	7.04	68	7.14	69	7.25	67	7.04	67	7.04	338	35.49
43	Exposure visit to farmers for 5 days. Rs.1000/farmer/day	No	0.05	All Blocks Except B1,B14,B19	157	7.85	163	8.15	163	8.15	159	7.95	165	8.25	807	40.35

Sl. No.	Interventions	Unit	Unit cost	Block Covered	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		Total	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
44	Training to farmers at HTC	No	0.0025	B20,B15,B8,B18, B2,B4,B1	82	0.21	82	0.21	82	0.21	82	0.21	82	0.21	410	1.03
45	Exposure visit of farmers outside India	No	4	B20,B9,B12,B4	5	20.00	6	24.00	8	32.00	7	28.00	6	24.00	32	128.00
46	Training to staff outside the state / Batch of 5 members	No	0.04	B20,B15,B12,B10 ,B9,B6,B11,B2,B1 9,B13,B4,B16,B1	9	0.36	11	0.44	8	0.32	12	0.48	11	0.44	51	2.04
47	Training to staff outside India	No	6	B20,B9,B2,B12, B4,B1	3	18.00	4	24.00	4	24.00	3	18.00	5	30.00	19	114.00
48	District level seminar	No	2	B2,B6,B9	1	2.00	2	4.00	1	2.00	2	4.00	3	6.00	9	18.00
49	Computerization & governance	No	1	B2,B6,B11	2.5	2.50	1.5	1.50	1.5	1.50	1.5	1.50	2.5	2.50	9.5	9.50
50	Publicity and Documentation	No	0.5	All Blocks Except B19,B20	18	9.00	18	9.00	18	9.00	18	9.00	18	9.00	90	45.00
I	**Crop Insurance and Risk Mitigating schemes**															
51	Crop Insurance	Ha	0.025	B2,B19,B1,B12,B 16,B4,B18,B13,B 3,B7,B5,B15,B17, B6,B8	500	12.50	562	14.05	633	15.83	650	16.25	680	17.00	3025	75.63
	Grand Total					**3932.37**		**4156.79**		**4473.35**		**4764.27**		**4920.67**		**22247.44**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.4 AGRICULTURAL ENGINEERING

Agricultural mechanization is the process whereby equipments, machineries and implements are utilized to boost agricultural and food production. It is the application of machineries, equipments and implements in the day to day farm activities to increase marginal output in food production and poverty eradication. It increases productivity of land and labour by meeting timeliness of farm operations and increase work out-put per unit time. Besides, its paramount contribution to the multiple cropping and diversification of agriculture, mechanization also enables efficient utilisation of inputs such as seeds, fertilisers and irrigation water. The agricultural mechanization is the only way out to face the challenge of farm worker's shortage. Thus, the ultimate objective of Agricultural Mechanization Strategies in developing countries is to help increase the welfare of farm households and create positive dynamics and opportunities for economic growth in rural areas.

Strategies

- Promotion and strengthening of Agricultural Mechanization through training, Testing and Demonstration in order to ensure performance testing of agricultural machinery and equipment, capacity building of farmers and end users and promoting farm mechanization through demonstrations.
- Demonstration, Training and Distribution of post-harvest Technology and Management (PHTM) to popularize the technology for primary processing, value addition, low cost scientific storage/transport and the crop by-product management through demonstrations, capacity building of farmers and end users. Provides financial assistance for establishing PHT units.
- Promotion of ownership to small and marginal farmers for various agricultural machinery and equipments such as Tractors, Power tillers, Rice transplanter, Self-propelled machinery, Tractor/Power tiller drawn equipments (MB Plough, Disc plough, Cultivator, Harrow, Leveler Blade, Ridger, Laser Land Leveller, Reversible Mechanical Plough, Rotavator, Rotopuddler, Reversible Hydraulic Plough, Post hole digger, Reaper, Seed driller, Balers, Coconut thrash cutter, coconut frond chopper, Multi crop thresher, Paddy thresher, Brush cutter, Chaff cutter, Drum Seeder) and Plant protection equipments .
- Provision of suitable financial assistance to establish farm machinery banks for custom hiring for appropriate locations and crops
- Establishment of hi-tech machinery hubs for high value crops like sugarcane, cotton etc.

- Promotion of appropriate technologies and to set up farm machinery banks in identified villages
- Provision of financial assistance on per hectare basis to the beneficiaries hiring machinery/equipments from custom hiring centres
- Increases the tractor hire services in the farms of small and marginal farmers
- Strengthening of Minor irrigation for the rainfed and hard rock areas. It would establish through construction of open well, tube wells and Bore wells. Revitalisation of wells by side boring and blasting in hard rock areas.
- Introduction of renewable energy in the villages which would replace other fuels. Also attractive for water pumping applications in remote areas. Hence solar operated photovoltaic water pumping system provides better sustainable alternative option to fulfill irrigation requirement of agriculture.
- Strengthening of communication and information facilities in order to disseminate the information in rural areas
- Awareness to be created towards the usage of Sugarcane infielder, Bird scarer, Mechanized row crop cultivation and Modernization of tractor workshop which indirectly increase the production.
- Promotion of agro-processing and management machinery at community level through supply of post-harvest machinery such as self-propelled/other driven horticultural machinery (Chain saw/ wheel barrow/ Mango grader/ planter and other suitable self-propelled machineries and equipments), Manual horticultural equipments (Aluminium ladder/ Ladder, Aluminium pole, Plucker), Post-harvest equipments for grains, oil seeds and Horticultural crops (Mini Rice mill, Mini Dhall mill, Millet Mill, Oil mill with filters, Extractor, pomegranate air extractor, Custard apple pulper, Dehydration unit, Pricking Machine, Humidifier, Packing machine, power driven dehusker, thresher, Harvester, De-spiking, Deconing, Peeler, Splitter, Stripper, Boiler, Steamer, Dryer solar, Washing Machine, Grinder, Pulveriser, Polisher, Cleaner cum grader, gradient separator, Specific gravity separator) this would make sure that more value is added to farm outputs locally
- Promotion of Bio-mass gasifier unit which hold huge potential technology for decentralized electricity generation in rural villages. Biomass is a CO2 neutral fuel and, therefore, unlike fossil fuels such as diesel does not contribute to net CO2 emissions, which makes biomass based power generation systems an attractive option in mitigating the adverse effects of climate change.
- Establishment of Agricultural Engineering Extension centres in order to collect information related to Government subsidy on agricultural / machineries

/ equipment / irrigation systems etc., compilation of latest technologies related to Agricultural Engineering and Development of video cassettes library related to Processing of agricultural products, Working of important agricultural machines and equipment and Repair, maintenance and proper setting of the different agricultural Machines / and equipment

- Promotion of training to AED engineers on post-harvest techniques and bio energy
- Rehabilitation of irrigation network to bring water directly to the root zone of the crop, improve application and conveyance efficiency, thereby reduce the wastage of water due to flood irrigation.
- Prevention of sea water intrusion through construction of subsurface dyke, Village Pond / Community Pond, Farm Pond, Recharge shaft and Weir/Bed Dam.
- Reclamation of problem soils which needs special management for satisfactory crop production. Physical limitations can be managed by irrigation, drainage, mulching, manuring, tillage, and soil conservation measures such as terracing, contouring, and cover crops whichever is appropriate.

Expected outcome

Implementation of the above strategies such as supply of farm implements to carry out mechanised cultivation operations and demonstration to farmers the advantage of using Agricultural implements and machinery would increase the production and productivity. Post- Harvest Technologies to farmers would prevent loss of food grains during harvest and storage and Preserve the quality of produce in respect of perishable commodities. Disseminated technologies on renewable energies, in particular, solar energy for agricultural activities in respect of pumping with solar powered pumps, drying farm produce for enhancement of quality to fetch reasonable market price.

Budget

The budget requirement for fulfilling the various interventions is ₹ **10499.14** lakh. The details of budget requirement for each intervention across the blocks are shown in Table.

Implementingagency

The projects will be implemented by the Department of Agricultural Engineering. The progress will be monitored by chief engineer.

Table 4.19. Budget requirement for Agricultural Engineering

(₹in lakhs)

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Demonstration of Agricultural Machinery	No's/ Ha	0.04	All Blocks	24.00	0.96	24.00	0.96	24.00	0.96	24.00	0.96	24.00	0.96	120.00	4.80
2	Training of farmers	No's/ Ha	0.04	All blocks except B15 & B8	90.00	3.60	90.00	3.60	90.00	3.60	90.00	3.60	90.00	3.60	450.00	18.00
3	Training of Rural Youth in workshops	No's/ Ha	0.04	All blocks except B14 & B5 B15, B4,B7, B8	100.00	4.00	100.00	4.00	100.00	4.00	100.00	4.00	100.00	4.00	500.00	20.00
4	Demonstration of Post Harvest Technologies	No's/ Ha	0.04	All blocks except B18, B20, B17, B15, B4, B7 & B8	52.00	2.08	52.00	2.08	52.00	2.08	52.00	2.08	52.00	2.08	260.00	10.40
5	Financial assistance for Post Harvest Equipment	No's/ Ha	4.00	All blocks	3.00	12.00	0.00	0.00	7.00	28.00	7.00	28.00	7.00	28.00	24.00	96.00
6	Tractor (15-20 PTO HP)	No's/ Ha	4.00	All Blocks	112.00	448.00	112.00	448.00	112.00	448.00	112.00	448.00	112.00	448.00	560.00	2240.00
7	Tractor (Above 20-40 PTO HP)	No's/ Ha	6.00	All Blocks	1.00	6.00	1.00	6.00	1.00	6.00	1.00	6.00	1.00	6.00	5.00	30.00
8	Tractor (40-70 PTO HP)	No's/ Ha	8.50	All Blocks	20.00	170.00	20.00	170.00	20.00	170.00	20.00	170.00	20.00	170.00	100.00	850.00
9	Power Tiller (below 8 BHP)	No's/ Ha	1.00	All Blocks	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	200.00	200.00
10	Power Tiller (8 BHP & above)	No's/ Ha	1.75	All Blocks	92.00	161.00	92.00	161.00	92.00	161.00	92.00	161.00	92.00	161.00	460.00	805.00
11	Post Hole Digger / Augur	No's/ Ha	0.63	All Blocks	12.00	7.56	12.00	7.56	4.00	2.52	2.00	1.26	14.00	8.82	44.00	27.72
12	MB Plow	No's/ Ha	0.30	All Blocks	4.00	1.20	4.00	1.20	4.00	1.20	4.00	1.20	4.00	1.20	20.00	6.00
13	Disc Plow	No's/ Ha	0.30	All Blocks	4.00	1.20	4.00	1.20	4.00	1.20	4.00	1.20	4.00	1.20	20.00	6.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
14	Cultivator	No's/ Ha	0.20	All Blocks	8.00	1.60	8.00	1.60	8.00	1.60	8.00	1.60	8.00	1.60	40.00	8.00
15	Leveler Blade	No's/ Ha	0.15	All Blocks	4.00	0.60	4.00	0.60	4.00	0.60	4.00	0.60	4.00	0.60	20.00	3.00
16	Ridger	No's/ Ha	0.25	All Blocks	4.00	1.00	4.00	1.00	4.00	1.00	4.00	1.00	4.00	1.00	20.00	5.00
17	Rotavator	No's/ Ha	0.35	All Blocks	70.00	24.50	70.00	24.50	70.00	24.50	70.00	24.50	70.00	24.50	350.00	122.50
18	Post Hole Digger	No's/ Ha	0.80	All Blocks	8.00	6.40	8.00	6.40	8.00	6.40	8.00	6.40	8.00	6.40	40.00	32.00
19	Power Weeder (engine operated below 2 BHP)	No's/ Ha	0.25	All Blocks	14.00	3.50	14.00	3.50	14.00	3.50	14.00	3.50	14.00	3.50	70.00	17.50
20	Coconut Frond chopper	No's/ Ha	0.80	All Blocks	8.00	6.40	8.00	6.40	8.00	6.40	8.00	6.40	8.00	6.40	40.00	32.00
21	Balers	No's/ Ha	2.90	All blocks except B14, B9 & B7	4.00	11.60	2.00	5.80	2.00	5.80	4.00	11.60	2.00	5.80	14.00	40.60
22	Brush Cutter	No's/ Ha	0.25	All Blocks	36.00	9.00	36.00	9.00	36.00	9.00	36.00	9.00	36.00	9.00	180.00	45.00
23	f. Chaff Cutter (Operated by engine / electric motor below 3 hp and by power tiller and tractor of below 20 BHP tractor)	No's/ Ha	0.25	All Blocks	95.00	23.75	95.00	23.75	95.00	23.75	95.00	23.75	95.00	23.75	475.00	118.75
24	Cultivator	No's/ Ha	0.25	All Blocks	23.00	5.75	11.00	2.75	23.00	5.75	11.00	2.75	23.00	5.75	91.00	22.75
25	Rotavator	No's/ Ha	0.80	All Blocks	98.00	78.40	98.00	78.40	98.00	78.40	118.00	94.40	118.00	94.40	530.00	424.00
26	Post Hole digger	No's/ Ha	0.90	All Blocks	9.00	8.10	9.00	8.10	9.00	8.10	5.00	4.50	5.00	4.50	37.00	33.30
27	Power Weeder (engine operated above 2 BHP)	No's/ Ha	0.70	All Blocks	26.00	18.20	26.00	18.20	26.00	18.20	26.00	18.20	26.00	18.20	130.00	91.00
28	Balers	No's/ Ha	3.00	All Blocks	2.00	6.00	2.00	6.00	2.00	6.00	2.00	6.00	2.00	6.00	10.00	30.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
29	Brush Cutter	No's/ Ha	0.30	All Blocks	36.00	10.80	36.00	10.80	36.00	10.80	36.00	10.80	36.00	10.80	180.00	54.00
30	f.Chaff Cutter (Operated by engine / electric motor above 3-5 hp and by power tiller and tractor of below 35 BHP tractor)	No's/ Ha	0.40	All Blocks	1.00	0.40	1.00	0.40	1.00	0.40	1.00	0.40	1.00	0.40	5.00	2.00
31	Cultivator	No's/ Ha	0.30	All Blocks	31.00	9.30	31.00	9.30	31.00	9.30	31.00	9.30	31.00	9.30	155.00	46.50
32	Rotavator	No's/ Ha	0.95	All Blocks	130.0	123.50	120.00	114.00	110.00	104.50	110.00	104.50	110.00	104.50	580.00	551.00
33	Post Hole digger	No's/ Ha	1.05	B14,B18,B13,B2, B19	1.00	1.05	1.00	1.05	1.00	1.05	1.00	1.05	1.00	1.05	5.00	5.25
34	Thresher/Multi Crop threshers	No's/ Ha	4.00	All Blocks	2.00	8.00	2.00	8.00	2.00	8.00	2.00	8.00	2.00	8.00	10.00	40.00
35	Balers (Round)	No's/ Ha	3.50	All Blocks	14.00	49.00	8.00	28.00	8.00	28.00	14.00	49.00	14.00	49.00	58.00	203.00
36	Tree climber	No's/ Ha	0.07	All Blocks	11.00	0.77	11.00	0.77	11.00	0.77	11.00	0.77	11.00	0.77	55.00	3.85
37	Manual sprayer: Knapsack/foot operated sprayer	No's/ Ha	0.015	All Blocks	32.00	0.48	32.00	0.48	32.00	0.48	32.00	0.48	32.00	0.48	160.00	2.40
38	Powered Knapsack Sprayer/Power operated Taiwan sprayer (capacity 8-12 lts)	No's/ Ha	0.060	All Blocks	90.00	5.40	90.00	5.40	90.00	5.40	90.00	5.40	90.00	5.40	450.00	27.00
39	Powered Knapsack Sprayer/Power operated Taiwan sprayer (capacity above 12-16 lts)	No's/ Ha	0.080	All Blocks	90.00	7.20	90.00	7.20	90.00	7.20	90.00	7.20	90.00	7.20	450.00	36.00
40	Powered Knapsack Sprayer/Power operated Taiwan sprayer (capacity above 16 lts)	No's/ Ha	0.10	All Blocks	90.00	9.00	90.00	9.00	90.00	9.00	90.00	9.00	90.00	9.00	450.00	45.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
41	Establishment of Farm Machinery Banks for Custom Hiring	No's/ Ha	28.00	All blocks except B20 & B12	9.00	252.00	9.00	252.00	5.00	140.00	9.00	252.00	10.00	280.00	42.00	1176.00
42	Establishment of Hi-Tech, High Productive Equipment Hub for Custom Hiring	No's/ Ha	112.00	B6	2.00	224.00	2.00	224.00	2.00	224.00	2.00	224.00	2.00	224.00	10.00	1120.00
43	Purchase of Tractors for AED	No's/ Ha	8.00	All Blocks	1.00	8.00	1.00	8.00	0.00	0.00	1.00	8.00	1.00	8.00	4.00	32.00
44	Purchase of Tractor drawn implemnets for AED	No's/ Ha	0.50	All Blocks	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	30.00	15.00
45	Purchase of Bull Dozers for AED	No's/ Ha	80.00	All Blocks	0.00	0.00	1.00	80.00	0.00	0.00	1.00	80.00	0.00	0.00	2.00	160.00
46	Purchase of Air Compressor 750 cfm for AED	No's/ Ha	25.00	B14,B18, B13	1.00	25.00	1.00	25.00	0.00	0.00	0.00	0.00	1.00	25.00	3.00	75.00
47	Purchase of Resitivity Metres for AED	No's/ Ha	3.00	B14	1.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00
48	Purchase of Electrical Loggers for AED	No's/ Ha	7.50	B14	0.00	0.00	1.00	7.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	7.50
49	5 hp	No's/ Ha	3.75	All Blocks	56.00	210.00	36.00	135.00	36.00	135.00	16.00	60.00	36.00	135.00	180.00	675.00
50	7.5 hp	No's/ Ha	5.30	All Blocks	19.00	100.70	19.00	100.70	19.00	100.70	5.00	26.50	19.00	100.70	81.00	429.30
51	10 hp	No's/ Ha	6.75	All Blocks	4.00	27.00	4.00	27.00	4.00	27.00	4.00	27.00	4.00	27.00	20.00	135.00
52	upto 400sq.ft	No's/ Ha	4.25	All Blocks	4.00	17.00	4.00	17.00	4.00	17.00	4.00	17.00	4.00	17.00	20.00	85.00
53	400-600sq.ft	No's/ Ha	6.50	All Blocks	4.00	26.00	1.00	6.50	4.00	26.00	1.00	6.50	4.00	26.00	14.00	91.00
54	Computer & its accessories	No's/ Ha	0.80	B14	1.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.80
55	Tablet (Tab)	No's/ Ha	0.25	B14	1.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.25
56	Xerox machine	No's/ Ha	1.50	B14	1.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.50

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
57	Sugarcane Infielder	No's/ Ha	7.00	B14	0.00	0.00	1.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	7.00
58	Bird Scarer	No's/ Ha	0.40	B14	0.00	0.00	1.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.40
59	Mecanized row crop cultivation- Pilot mechanization Demonstration	No's/ Ha	0.04	B14	0.00	0.00	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.04
60	Chain saw/ Wheel barrow/ Mango grader/ planter and other suitable self propelled machineries and equipments for horticulture Crops	No's/ Ha	1.00	All Blocks	10.00	10.00	10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00
61	Aluminium Ladder/ Ladder	No's/ Ha	0.20	All Blocks	10.00	2.00	10.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	4.00
62	Aluminium pole	No's/ Ha	0.03	All Blocks	10.00	0.30	10.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.60
63	Plucker	No's/ Ha	0.02	All Blocks	10.00	0.20	10.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.40
64	Mini Rice Mill	No's/ Ha	1.50	B14	0.00	0.00	0.00	0.00	1.00	1.50	0.00	0.00	0.00	0.00	1.00	1.50
65	Mini Dal Mill	No's/ Ha	1.70	B14	0.00	0.00	0.00	0.00	1.00	1.70	0.00	0.00	0.00	0.00	1.00	1.70
66	Millet Mill	No's/ Ha	1.50	B18,B13	0.00	0.00	0.00	0.00	2.00	3.00	0.00	0.00	0.00	0.00	2.00	3.00
67	Oil mill with filter press (for all type of Horticulture / Food grain / Oil seeds crop)	No's/ Ha	1.20	B18,B13	0.00	0.00	0.00	0.00	2.00	2.40	0.00	0.00	0.00	0.00	2.00	2.40
68	Extractor (for all type of Horticulture / Food grain / Oil seeds crop)	No's/ Ha	1.00	B18,B13	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00	2.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
69	Dehydration unit/ Pricking Machine/ Humidifier (for all type of Horticulture / Food grain / Oil seeds crop)	No's/ Ha	1.00	B18,B13	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00	2.00
70	Packing Machines (for all types of Horticulture / Food grain / Oil seeds crop)	No's/ Ha	3.00	B18,B13	0.00	0.00	0.00	0.00	2.00	6.00	0.00	0.00	0.00	0.00	2.00	6.00
71	All types of Power driven Dehusker/ sheller/ Threshers/ Harvesters/ De-spiking/ Deconing Machine/ Peeler/ Splitter/ Stripper (for all type of Horticulture / Food grain / Oil seeds crop)	No's/ Ha	1.20	B18,B13	0.00	0.00	0.00	0.00	2.00	2.40	0.00	0.00	0.00	0.00	2.00	2.40
72	All types of Boiler/ Steamer/ Dryer solar (for all type of Horticulture / Food grain / Oil seeds crop)	No's/ Ha	2.00	B18,B13	0.00	0.00	0.00	0.00	0.00	0.00	2.00	4.00	0.00	0.00	2.00	4.00
73	All types of Washing Machines (for all type of Horticulture / Food grain / Oil seed crop)	No's/ Ha	1.50	B14	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.50	0.00	0.00	1.00	1.50
74	All types of Grinder/ Pulveriser/ Polisher (for all type of Horticulture / Food grain / Oil seed crop)	No's/ Ha	0.30	B14	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.30	0.00	0.00	1.00	0.30

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
75	All types of Cleaner cum grader/ Gradient separator/ Specific gravity separator (for all types of Horticulture / Food grain / Oil seed crop)	No's/ Ha	0.75	All Blocks	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.75	0.00	0.00	1.00	0.75
76	Bio- mass gasifier	No's/ Ha	1.20	All Blocks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.40	2.00	2.40
77	Construction of Agricultural Engineering Extension centres (AEECs)	No's/ Ha	75.00	B14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	75.00	1.00	75.00
78	Training of AED Engineers on " Agricultural Processing" and " Bio-Energy"	No's/ Ha	0.04	B18,B13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.08	2.00	0.08
	Total					**2198.05**		**2141.64**		**1946.16**		**1997.95**		**2215.34**		**10499.14**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.5 AGRICULTURAL MARKETING

The Government is taking every effort to attain sustainable agricultural development by transforming agriculture into a commercial venture, by switching over to new scientific methods of cultivation so as to increase the productivity manifold. Besides, through value addition, processing and utilization of marketing opportunities, the marketing of such incremental output can be ensured. To further improve the marketing opportunities and to reduce the loss of agricultural produces, several measures have to be taken up by way of interventions like strengthening of shandies, construction of storage godown, provision of market accessories and capacity building of farmers.

The core problem in Agribusiness development is the general failure in coordinating the decisions of the private stake holder's *viz.,* farmers, traders and agricultural processors and service providers by the government and non-governmental sectors. In fact, farmers fail to link themselves through effective producer-organizations to undertake joint decisions in production and marketing as well. Such weak linkages also due to limited access to relevant market intelligence and inadequate market infrastructure. Farmers are also poorly linked to research and extension providers to address their specific technology and knowledge needs that would enable them into high-value production systems.

Enterprisers also have weak linkages with the farmers through contracts and vertical integration arrangements and are away from consumers because of absence of organized retail chains. Linkage with service providers are characterized by lack of confidence, particularly in the case of research and extension organizations. The inadequacy in certification, quality assurance systems and inadequate infrastructure continues to limit the integration of production and international markets.

Service providers also fail to link with each other. Links between State and Central Agencies are also often limited. Service providers from the public sector are often unable to provide effective service due to lack of funding. Most NGOs are not used to work in the field of enterprises development and their presence in the agricultural sector is marginal. On the other hand, service providers from the private sectors are emerging and have to fulfill the aspirations of small and marginal enterprises or producer groups.

So, to accelerate the growth substantially, a new way of linking of Agribusiness development and promoting Agribusiness is needed. Promotion of commodity groups, farmer producer agencies, marketing organization and market linkage, encouraging of

private players in marketing, value addition, more infrastructural facilities for processing and sensitizing the farmers for market-led agriculture by rendering crop advisory and market information are needed. Agri-business also contributes to the production of higher-value products and diversification away from the 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.

Strategies

The proposed interventions will promote the Agri-business practices and models required to support Agri-business development, allowing the sector to contribute to the economic growth especially 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.

Rather than starting from a production point of view, stakeholders are encouraged to start from understanding market requirements and opportunities. The interventions will help stakeholders to access the relevant technologies and knowledge services needed for realizing the identified profit opportunities.

Components

- Promotion of commodity groups and market information through e learning centre in all the blocks except Yercaud blocks
- Construction of Storage godown for commodity groups in all the blocks except Attur and Yercaud blocks
- Construction of drying yards in all the blocks except P. N. Palayam, Attur, Gangavalli and Mecheri blocks
- Strengthening of Regulated Markets in P. N. Playam block
- Formation of Farmer Producer Organizations (FPO) in all the blocks
- Distribution of Turmeric boiler, grader, polisher, pulvariser in all the blocks except Salem, Veerapandy, Ponnamaravathy and Ayothiyapattinam blocks
- Promotion of cold storage facilities in all the blocks except Ponnamaravathy, Sankari, Konganapuram and Mac. Choultry
- Distribution of plastic crates to vegetable commodity group farmers

- Commodity group in all the blocks
- Imparting value addition trainings to commodity group farmers in all the blocks
- Exposure visit (within state & outside state) for commodity group farmers to acquire value addition technologies in all the blocks

Budget

It is proposed to incur ₹ **10624.00** lakh over a period of five years.

Expected Outcome

The interventions will promote entrepreneurs by organizing trainings and exposure visits. Farmers are facilitated to use drying yards and cold storage to market good quality graded products. It will also avoid distress sale by storing their agricultural produce. It helps them to get loans during storage period and sell it when the market price is high. This will strengthen the economic condition of the farmers as well as habituate them for grading, drying, sorting and storing.

Implementing Agency

Agricultural Marketing and Agri Business Department will implement the programs. The progress of the project will be monitored by commissioner of Agricultural Marketing and the state nodal agency.

Table 4.20. Budget for strengthening of Agricultural Marketing and Agri-Business

(₹in lakhs)

Sl. No	Intervention	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Promotion of Commodity Groups and Market Information															
1	e-learning Centre	Nos.	5	All blocks except B5	0	0.00	2	10.00	16	80.00	0	0.00	0	0.00	18	90.00
2	Publicity-Press Release, Printing of Pamplets, Booklets, Banners, Flex.	Nos.	0.002	All Blocks	5650	11.30	6850	13.70	6400	12.80	6400	12.80	6500	13.00	31800	63.60
	Strengthening of Uzhavar Sandhai and Regulated Market	Nos.														
3	Additional Shops	Nos.	1	B1, B2, B7, B10, B13, B18	0	0.00	40	40.00	15	15.00	15	15.00	15	15.00	85	85.00
4	Cold Storage	Nos.	10	B3, B17, B19, B20	0	0.00	3	30.00	0	0.00	2	20.00	2	20.00	7	70.00
5	Strengthening of cold storage unit(Epoxy coated steel racks and plastic crates	Nos.	0.5	B2,B7, B10, B11, B15	5	2.50	154	77.00	0	0.00	0	0.00	0	0.00	159	79.50
6	Drying Yard	Nos.	7	All Blocks except B9, B10, B11, B15	0	0.00	6	42.00	9	63.00	15	105.00	16	112.00	46	322.00
7	Storage godown	Nos.	20	All Blocks except B5, B10	0	0.00	0	0.00	2	40.00	18	360.00	18	360.00	38	760.00
8	Ticker Board and External Electrification	Nos.	0.8	B1, B2, B7, B10, B13, B18	6	4.80	4	3.20	0	0.00	0	0.00	0	0.00	10	8.00

Sl. No	Intervention	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
9	Drinking Water Facility	Nos.	0.5	All Blocks	40	20.00	17	8.50	0	0.00	0	0.00	0	0.00	57	28.50
10	Administrative Office Room (Vevichle shed ,waiting hall,washing Room,Borewell with Motor, water Tank)	Nos.	0.75	All Blocks	20	15.00	9	6.75	0	0.00	0	0.00	0	0.00	29	21.75
11	Strengthening of RM	Nos.	0.01	B9	500	5.00	500	5.00	500	5.00	500	5.00	500	5.00	2500	25.00
	Formation of FPO / Strengthening of Existing Commodity Groups															
12	Commodity Group	Nos.	50	All Blocks	0	0.00	0	0.00	14	700.00	20	1000.00	20	1000.00	54	2700.00
	Provision of Market Access and Market Activities	Nos.														
13	Dunnage	Nos.	0.02	All Blocks	2875	57.50	3000	60.00	3000	60.00	3000	60.00	3000	60.00	14875	297.50
14	Electronic Digital Weighing Scale - 5 Kg	Nos.	0.05	B1, B2, B7, B10, B13, B18	150	7.50	200	10.00	0	0.00	0	0.00	0	0.00	350	17.50
15	Plastic crates	Nos.	0.01	All Blocks	24800	248.00	29400	294.00	29250	292.50	29250	292.50	29250	292.50	141950	1419.50
16	Provision of Gunnies	Nos.	6	B11	0	0.00	2	12.00	0	0.00	0	0.00	0	0.00	2	12.00
17	Tarpaulin	Nos.	0.1	All Blocks	4600	460.00	5110	511.00	5060	506.00	5060	506.00	5060	506.00	24890	2489.00
18	Trolleys	Nos.	0.3	B1, B2, B7, B10, B13, B18	4	1.20	9	2.70	6	1.80	0	0.00	0	0.00	19	5.70
19	Vending Cart	Nos.	2	B3	0	0.00	7	14.00	0	0.00	0	0.00	0	0.00	7	14.00
	Post Harvest Infrastructure and Machinaries	Nos.														
20	Coconut Ladder	Nos.	0.04	All Blocks	92	3.68	107	4.28	103	4.12	103	4.12	103	4.12	508	20.32
21	Dhal processing Unit	Nos.	3	B14	0	0.00	3	9.00	0	0.00	0	0.00	0	0.00	3	9.00

Sl. No	Intervention	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
22	Millet processing unit	Nos.	2	B11	0	0.00	1	2.00	0	0.00	0	0.00	0	0.00	1	2.00
23	Solar Dryer	Nos.	2	B5	0	0.00	7	14.00	0	0.00	0	0.00	0	0.00	7	14.00
24	Sugar Cane crushing Machinaries for Jaggery Preparation	Nos.	0.5	B4	0	0.00	2	1.00	0	0.00	0	0.00	0	0.00	2	1.00
25	Turmeric boiler	Nos.	1	All Blocks except B1, B2, B3, B5, B6	0	0.00	14	14.00	0	0.00	0	0.00	0	0.00	14	14.00
26	Turmeric Polisher	Nos.	2	All Blocks B4, B5, B11	0	0.00	16	32.00	0	0.00	0	0.00	0	0.00	16	32.00
	Capacity building Programme	Nos.														
27	Exposure Visits - within state	Nos.	0.02	All Blocks	5900	118.00	6350	127.00	6350	127.00	6350	127.00	6350	127.00	31300	626.00
28	Exposure Visits - outside state - 3 days	Nos.	0.1	All Blocks	1925	192.50	2100	210.00	2100	210.00	2100	210.00	2100	210.00	10325	1032.50
29	Training on Market led Extension, Agmark grading&Food safety, post harvest technology, Supply Chain Management, Grading-sorting-packing, Market linkages & Exports, Food processing and value addition at district level	Nos.	0.005	All Blocks	9075	45.38	9775	48.88	9275	46.38	9275	46.38	9275	46.38	46675	233.38

Sl. No	Intervention	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
30	Conducting festivals/melas, Field days, awareness campaign, seminar, Farmers-Scientists interaction, Village meeting	Nos.	0.005	All Blocks	4750	23.75	5750	28.75	5250	26.25	5250	26.25	5250	26.25	26250	131.25
	Total					**1216.11**		**1630.76**		**2189.85**		**2790.05**		**2797.25**		**10624.00**

B1-Salem, B2-Veerapandy, B3-Panamarathupatty, B4- Omalur , B5-Yercaud, B6-Ayothiyapattinam, B7-Vazhapaddy, B8-Kadyampatty, B9-P.N.Palayam, B10-Attur, B11-Gengavalli, B12-Thalaivasal, B13-Kolathur, B14- Nangavalli, B15- Mecheri, B16-Tharamangalam, B17-Sankari, B18-Edapaddy, B19-Konganapuram, B20-Mac.Choultry

4.6 SEED CERTIFICATION AND ORGANIC CERTIFICATION

Seed is a critical input for long-term sustained growth of agriculture. Timely availability of certified quality seeds with good yield potential continues to be a decisive factor in agricultural production. Farmers in Tamilnadu state are well aware of the benefits of using quality seeds which include foundation, certified and truthfully labelled seeds. In our State, the seed replacement rate is being adopted as per the guidelines of Government of India. In order to achieve the target of doubling the income of farmers, timely availability of quality seeds is given utmost importance. Concerted efforts are essential in ensuring timely availability of seeds as well as increasing the Seed Replacement Rate (SRR). The National Mission on Seeds has been formulated with a view to upgrade the quality of farm saved seeds and also to enhance Seed Replacement Rate. The Department of Seed Certification & Organic Certification plays the supporting role in the enhancement of Seed Replacement Rate by certifying quality seeds in an increasing trend over the years.

Seed certification is a legally sanctioned system for quality control of seed multiplication and production. The immediate objective of seed certification is to supply high quality seed to farmers and other growers, which is true to identity, high in purity and germination capacity and free from certain pests and diseases. Seed quality is most important in crop production, as high quality seed is essential for good crop yields and good returns, and minimize the likelihood of crop failure. Moreover, growing consciousness of health hazards due to possible contamination of farm products from use of chemicals have immensely contributed to the revival of organic agriculture. Organic certification is a certification body for organic production which was established as a government department on 17 of May 2007. Thus the major focus of the department will be creation of new facilities for better certification by strengthening the lab facilities, and infrastructure, create more awareness on quality seed and organic agriculture through capacity building, expanding communication and networking facilities in order to enhance the activities on seed and organic certification.

Project components

- **Strengthening of Seed Testing laboratories in all the blocks**

Samples received in a seed testing laboratory should be processed through various stages in the laboratory as quickly as possible so that result may be sent to sender promptly. The space provided for seed testing, the arrangement of that space and furnishing available would contribute greatly in the efficient functioning of the laboratory. In order to carry out seed quality tests and maintaining the purity in the seed testing laboratory the equipments such as R.O. System, Humidifier, Digital Moisture

meter, Microscope, Working table, Working Chair, Air conditioner, Sample Racks, Geaser, Heater, Trolley for Carriages, Generator 30KV, Induction Stove, Fabricated Display Racks, Conductivity Meter, Dehuller/ Scarifier, Seed Grinder, Blower, Hot Air oven, Incubator and Miscellaneous are required.

- **Strengthening of communication and networking facilities**

Information on quality seed production techniques would be disseminating among the farmers and seed growers. Computers and accessories essentially required for communication and networking.

Expected outcome

Enhancement of communication and networking would promote the quality of seed and organic certification.

Budget

The budget requirement for fulfilling those interventions is ₹ **36.72** Lakhs. The details of budget requirement for each intervention are shown in Table.

Implementingagency

The projects will be implemented by the Directorate of Seed and Organic certification. The progress of the projects will be monitored by the state nodal agency.

Table 4.21. Budget requirement for Seed certification

(₹ in lakhs)

Sl. No.	Interventions	Blocks Covered	Unit	Unit cost	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	**Strengthening of Seed Certification lab**															
	Blower, Conductivity meter, Dehuller/Scarifier, Dehumidifier Air Conditioner, Digital moisture meter, Dunnage, Fabricated display Racks ,Geaser, Generator, Heater,Hot air oven,Humidifier,Incubator,Induction stove,Microscope,Moisture meter,Packing machine,R. O system,Sample racks,Seed Grinder,Sieve,Thermohydro meter,Dunnage,Trolley for carriages,Working chair,Working table, Miscellaneous,	All Blocks	Nos	13.36	1	13.36	0	0.00	1	13.36	0	0.00	0	0.00	2	26.72
II	**Strengthening of communication and networking facilities**															
	Computer accessories	All Blocks	No's	0.5	20	10.00	0	0.00	0	0.00	0	0.00	0	0.00	20	10.00
	Total					**23.36**		**0.00**		**13.36**		**0.00**		**0.00**		**36.72**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.7 ANIMAL HUSBANDRY

Livestock have been an integral component of India's agricultural and rural economy since time immemorial, supplying energy for crop production in terms of draught power and organic manure and in turn deriving their own energy requirements from crop byproducts and residues. Livestock are now more valued as source of food and contribute over one-fourth to the agricultural gross domestic product and engage about 9% of the agricultural labour force. The livestock sector has been growing faster rate than crop sector; however, in recent years, the growth both in livestock production and productivity has decelerated considerably. India's livestock sector is one of the largest in the world. It has 56.7% of world's buffaloes, 12.5% cattle, 20.4% small ruminants, 2.4% camel, 1.4% equine, 1.5% pigs and 3.1% poultry. In 2010-11, livestock generated outputs worth Rs. 2075 billion which comprised 4% of the GDP and 26% of the agricultural GDP. The total output worth was higher than the value of food grains.

Animal Husbandry sector plays a crucial role in ensuring the welfare of rural population. A majority of farmers depend on Animal Husbandry for their livelihood. Moreover, livestock sector provides supplementary employment and sustainable source of income to many small and marginal farmers. Thus, this sector is emerging as an important sector, leveraging the rural economy. In addition, this sector provides a continuous flow of essential food products like milk, meat, eggs besides draught power, raw materials like wool and hides for industries and manure. With increase in production of livestock products, livestock rearing is also considered as an avocation with high export potential. Distribution of livestock wealth is more egalitarian, compared to land and hence, from the equity and livelihood perspective, it is considered as an important component in poverty alleviation programmes.

Keeping view in this mind, various major interventions are being planned and proposed in the district agricultural plan to be implemented beyond 12th five year plan. The major interventions are:

1. Increasing the availability of fodder through field level interventions in all blocks
2. Livestock breeding management in all blocks
3. Improving the livestock productivity in all the blocks
4. Capacity building programmes in all blocks

Increasing the availability of fodder through field level interventions

Livestock rearing is one of the major occupations in India and is making significant contribution to the country's GDP. The livestock population, over the years,

has shown a steady growth on broadly two counts i.e. (i) increase in the number of stall feeding based bovine livestock viz. buffaloes and hybrid cattle, and (ii) increase in the number of free grazing based livestock like goats and sheep that can survive on the fast degrading pasturage. The animal husbandry sector has a good growth potential. However, further growth of the sector will be as much dependent upon the availability of fodder. The available data reveals that the present fodder availability in the country is well below requirement. The data also reveals that only about half of the annual fodder requirement is met from the cultivated fodder and crop residues, whereas open grazing and fodder availability from common property resources like forests, pastures, village commons, etc. fulfills the remaining half of the annual fodder requirement. The issue to be taken note of is that it is the open grazing and fodder availability from the common property resources that provides sustenance to a vast majority of households with animal husbandry as the only vocation.

The increasing number of livestock and the changing dynamics of animal husbandry practices require corresponding increase in the type of fodder needed to meet the requirements of these new situations. To overcome these issues the following field level interventions are proposed to improve the fodder availability.

1. Establishment of vermicomposting unit
2. Distribution of Azolla trays
3. Fodder plot development
4. Hydrophonic fodder production
5. Distribution of Silage bags
6. Development of seed production plots

Increasing the availability of fodder by strengthening farm infrastructure

The livestock sector is handicapped due to inadequate infrastructure facilities as a result of low productivity. Infrastructure development for animal husbandry is felt essential to provide the desired veterinary services in the interior pockets of the districts so as to enable the livestock owners living in the remote areas can avail the opportunities to consider AH activities as livelihood option and maximize profit through livestock sector. Adequately providing proper infrastructure and equipment to the veterinary health care institution is necessary for the timely diagnosis and treatment of animal diseases. Further, emphasis has to be laid on optimum utilization of waste land to grow fodder.

Improved infrastructure facilities will provide improved veterinary services contributing to reduction in the incidences of animal diseases thereby increasing the overall productivity of animals. The rural veterinary dispensaries are either functioning from rented premises or in dilapidated buildings. Further, functioning of Veterinary Institutions in the rental buildings do not satisfy the requirement of a typical Veterinary Institution and with a restricted scope for further expansion, these are not ideal infrastructure. This necessitates strengthening the infrastructure of the veterinary institutions to offer better delivery of services and to reshape it into knowledge resource centers where best practices can be disseminated to the farmers. The following infrastructure facilities will strengthen the fodder availability such as

1. Establishment of farmers training centre
2. Establishment of surgical theatres at veterinary institution
3. Establishment of disposal pits for poultry unit
4. Establishment of mobile disease diagonstics labs
5. Establishment of Ambulance facility in salem

Livestock breeding management

Over the past few decades, imported exotic cow varieties have gain a boost in milk production in Tamil Nadu. Most of the cattle breeds are exotic. These breeds theoretically produce a lot of milk, but are not well-adapted to our conditions. About 69% of Indian cows are owned by the economically poor strata of the society. These folks cannot afford to house these exotic breeds in regulated climate conditions. The government has significantly mismanaged cow breeding. The average milk yield per animal in India is just 3.2 kgs, compared to a global average of 6.6 kgs. The dairy policy and outlook is highly outdated and needs to be replaced with modern, evidence-based thinking

Livestock industry continues to demonstrate a beneficial impact on rural people by improving their income, employment and consumption and thereby acting as a potential tool in alleviating rural poverty. Artificial insemination (AI) has proven to be very effective for the improvement of the genetic potential of animals for higher production and there is no surprise why today AI is the back bone of all breeding programmes in India. The replacement of unproductive and ageing animals in the herd and its expansion are very important to maintain the scale of economy of the farm. Augmentation of fertility in repeat breeders and sex-sorted semen are some of the modern scientific tools which have been proposed to be employed for effective breeding management to enhance the

livestock fertility and productivity. The following interventions will help to improve livestock breeding management, such as

1. Facilitating CIDR for increasing fertility in cattle

Improving the livestock productivity

Although India is a major producer of livestock products the average productivity of livestock is lower compared to world average. Inadequate availability of feed and fodder, insufficient coverage through artificial insemination, low conception rates, non-availability of quality males for breeding, poor management practices, high mortality and morbidity losses due to diseases, inadequate marketing infrastructure and unorganized marketing are the other major concerns. To maximize the livestock productivity the following activities should be implement. The intervention have been propose are

1. Distribution of sheep, goat, buffalo, piggery, poultry units in all blocks
2. Development of Native chicken farms
3. Promotion of integrated farming system
4. Distribution of Buffalo units and piggery units
5. Deep freezer facility for storage of vaccines and medicines

Improving the service delivery at veterinary institutions

Veterinary hospitals, dispensaries, Aid Centers, diagnostic laboratories and veterinary manpower already available are much less than what is required. These services would be improved and expanded and will continue to be provided by the state owned facilities with an appropriate system of recovery of cost wherever feasible. Private investment to improve delivery of animal health services including facilities by private veterinary graduates would be encouraged. Mobile veterinary dispensaries with provision for vaccination and facilities to generate awareness of farmers regarding various livestock management issues would be promoted to improve outreach. For companion animals, state governments may consider to extend the veterinary services on full cost recovery basis. To improve the service delivery the below mentioned intervention have been proposed. The intervention have been propose are

1. Deep freezer facility for storage of vaccines and medicines
2. Establishment of infrastructure facilities, disease diagnostic lab, mobile veterinary units, surgical theaters and ambulance facilities.

Enhancing livestock management

The country has rich and diverse genetic resources of livestock in the form of a large number of species, breeds, and strains within a species. India has some of the best breeds of cattle and buffaloes with traits for dairy, draught power and dual purposes, several carpet wool breeds of sheep, highly prolific breeds of goats and adaptive breeds of poultry. Such utility genes and breeds would be identified, conserved and utilized for breeding and research. The focus would be on conservation of indigenous breeds of livestock and poultry. By developing slaughter house, livestock shandy also be helpful to enhancing livestock management. The intervention have been propose are

1. Animal identification and traceability in all blocks
2. Conservation of indigenous breeds in all blocks

Capacity building

Educating the farmers about the advanced crop production technologies as well as the techniques will enrich the knowledge of farmers through conduct of trainings and demonstrations to the farmers, youths and young entrepreneurs. On farm demonstrations are conducted on fodder production technologies, seed production, poultry farming and sheep farming etc.

Capacity building programme is to strengthen the capacities of farmers, indigenous and local communities and their organizations and other stakeholders, to manage sustainable biodiversity so as to increase their benefits and to promote awareness and responsible action, in the form of trainings, demonstrations, exposure visits, etc. To create awareness among the farmers the following trainings and campaigns have to be conducted..

1. Establishment of farmers training centre in Salem block
2. Conducting demonstrations camps and campaigns in all blocks
3. Creating awareness of livestock management to the farmers through training programmes in all blocks

Budget

The budget requirement for fulfilling the various interventions is ₹ **4923.25** lakhs.

Implementing agency

The projects will be implemented by the Department of Animal Husbandry. The progress will be monitored by Director of Animal Husbandry and State nodal agency.

Table 4.22. Budget requirement for development of animal husbandry

(₹in lakhs)

Sl. No	Interventions	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Increasing the Availability of Fodder through Field level Interventions															
1	Establishment of Vermicomposting unit (single bed)	Nos	0.05	All Blocks	20	1.00	20	1.00	20	1.00	20	1.00	20	1.00	100	5.00
2	Fodder production to the farmers by Hydrophonic methods	Nos	0.1	All Blocks	100	10.00	100	10.00	100	10.00	100	10.00	100	10.00	500	50.00
3	Distrbution of Azolla trays	Nos	0.03	All Blocks	500	15.00	500	15.00	500	15.00	500	15.00	500	15.00	2500	75.00
4	Distribution of Silage bags for conservation of fodder crops	Nos	0.005	All Blocks	1000	5.00	1000	5.00	1000	5.00	1000	5.00	1000	5.00	5000	25.00
5	Fodder plot development	acre	0.05	All blocks	400	20.00	400	20.00	400	20.00	200	10.00	200	10.00	1600	80.00
	Livestock Breeding Management															
6	CIDR (Controlled Internal Drug Release) for increasing Fertility in Cattle	Nos	0.01	All Blocks	1000	10.00	1000	10.00	1000	10.00	1000	10.00	1000	10.00	5000	50.00
	Improving the Livestock Productivity															
7	Distibution of Sheep/Goat units -semi intensive system	Nos	0.6	All Blocks	100	60.00	100	60.00	100	60.00	100	60.00	100	60.00	500	300.00
8	Distribution of Buffalo units(5 Buffaloes)	Nos	4.5	All Blocks	50	225.00	50	225.00	50	225.00	50	225.00	50	225.00	250	1125.00
9	Integrated farming (Goat+Cattle+Fish+Agriculture /Horticulture)	Unit	2	All Blocks	5	10.00	5	10.00	5	10.00	5	10.00	5	10.00	25	50.00
10	Development of Native chicken farms	Farm	1	All Blocks	25	25.00	25	25.00	25	25.00	25	25.00	25	25.00	125	125.00

Sl. No	Interventions	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
11	Establishment of disposal pits for poultry unit	Nos	1	All Blocks	25	25.00	25	25.00	25	25.00	25	25.00	25	25.00	125	125.00
12	Distribution of Piggery units (fattening-5 Nos)	Nos	1.25	B6, B10, B11, B14	1	1.25	1	1.25	1	1.25	1	1.25	1	1.25	5	6.25
13	Deep freezer facility for Storage of vaccines and Medicines	Nos	10	All Blocks	0	0.00	0	0.00	20	200.00	0	0.00	0	0.00	20	200.00
14	Establishment of Infrastructure facilities for Veterinary Institutions	Nos	30	All Blocks Except B3, B11, B13, B15, B16, B19	5	150.00	5	150.00	5	150.00	5	150.00	5	150.00	25	750.00
15	Establishment of Mobile Disease Diagnostic Labs	Nos	20	B11, B14	0	0.00	0	0.00	1	20.00	0	0.00	0	0.00	1	20.00
16	Establishment of Mobile Veterinary Units	Nos	10	B2, B5, B7, B11, B14, B18, B20, B9	3	30.00	2	20.00	2	20.00	2	20.00	0	0.00	9	90.00
17	Establishment of surgical theatres at veterinary institution	Nos	30	All Blocks	4	120.00	4	120.00	4	120.00	4	120.00	4	120.00	20	600.00
18	Providing solar lighting panels at veterinary institution	Nos	1	All Blocks	25	25.00	25	25.00	25	25.00	25	25.00	25	25.00	125	125.00
19	Package of Modern Veterinary Diagnostic Aids to Veterinary Institutions such as Computerised X rays, Ultrasound, Diathermy etc.	Nos	30	All Blocks	4	120.00	4	120.00	4	120.00	4	120.00	4	120.00	20	600.00
20	Establishment of Ambulance facility for animals	Nos	80	B14	1	80.00	1	80.00	0	0.00	0	0.00	0	0.00	2	160.00
	Livestock Management															
21	Animal Identification and	Unit of	0.1	All Blocks	300	30.00	30	3.00	30	3.00	30	3.00	30	3.00	420	42.00

Sl. No	Interventions	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Traceability	1000 animals														
22	Conservation of Indigenous breeds	Pack	10	All Blocks	1	10.00	1	10.00	1	10.00	1	10.00	1	10.00	5	50.00
	Capacity Building															
23	Establishment of Farmers training Centre	Nos	200	B14	0	0.00	1	200.00	0	0.00	0	0.00	0	0.00	1	200.00
24	Conducting Demonstrations, Camps and Campaigns	Nos	0.1	All Blocks	40	4.00	40	4.00	40	4.00	40	4.00	40	4.00	200	20.00
25	Creating awarness of livestock management to the farmers through Training Programmes	Nos	0.1	All Blocks	100	10.00	100	10.00	100	10.00	100	10.00	100	10.00	500	50.00
	Grand Total					**986.25**		**1149.25**		**1089.25**		**859.25**		**839.25**		**4923.25**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.8 DAIRY DEVELOPMENT

India has the highest livestock population in the world with 57% of the buffaloes and 14% of the world's cattle population, most of which are milch cows and milch buffaloes. India's dairy industry is considered as one of the most successful development programmes in the post-independence period. The dairy industry recorded the annual growth of 4% which is almost 3 times the average growth rate of the dairy industry in the world. Milk processing in India is around 35% of which organized dairy industry account for 13% of the milk produced, while the rest of milk either consumed at farm level, or sold as fresh , non-pasteurized milk through unorganised channels. In order to meet the growing demand for milk with a focus to improve milch animal productivity and increase milk production through strengthening and expanding village level infrastructure for milk procurement and provide producers with greater access to markets.

The strategies involves improving genetic potential of bovines, producing required number of quality bulls and superior quality frozen semen and adopting adequate bio-security measures etc.This sector plays a significant role in Indian economy, particularly for the welfare of rural population of India. Hence, the following interventions are suggested to enhance the dairy development.

A. Infrastructure and assets

Even though milk production has reached up to the level, the producers are not able to market the milk produced. This is mainly due to inadequate infrastructure available for procurement, processing of milkand marketing network. The milk producers, mostly small and marginal farmers and landless agricultural labourers are forced tosell their product at a low price as the commodity is perishable in nature. It is proposed to increase the handling capacity of fluid milk by the dairies under the co-operative sector at the rate of 10% per annum, augment/strengthen the marketing network to promote sale of products and bring under the cooperative fold an additional 50% of the farmers. Moreover, providing proper infrastructure to the veterinary health care institutions is necessary for the timely diagnosis and treatment of animal diseases. Further, a strong program for the supply of sufficient veterinary vaccine is imperative. Each veterinary health care institution is to be provided with cold storage facilitiesto store vaccine. Sensitization of the general public and livestock farmers on variouslivestock diseases through information, education and communication campaign would help in education the people about animal diseases.

The details of specific interventions are,

1. Construction of dairy unit in all blocks
2. Construction of skimmed milk powder plant
3. Creation of cattle feed plants
4. Ware house for dairy consumables/daily Production
5. Ice cream & dairy product buildings
6. BMC buildings
7. Establishment of Water treatment Plants / effluent treatment plants, steam raising plant with accessories, fat handling equipments and dairy equipments.

II. Engineering section

Dairying provides the main sourceof income next to agriculture. In a tropical country like India, agriculture may failsometimes, due to monsoon failure but dairying never fails and gives them regular, steady income.The machinery and equipment required depends on the level of mechanization desired and the scale of operation. However, some machinery and equipment are essentially required such as the chaff cutter machine, milking pails, milk cans and minor implements. On farms maintaining more than 20 milch animals, machine milking may be economical and more convenient as compared to hand milking. Installation of fans and mistress cooling devices in animal sheds for protection against heat stress is also a must if one wishes to keep high yielding crossbred cows. Dairy farms with 50 or more milch animals may also require a milk cooler, electricity generator set and a utility vehicle for the procurement of farm supplies and marketing of produce besides a tractor with implements for the cultivation of fodder crops and their harvesting, transportation chaffing, processing etc.

The major interventions are

1. Milking machine
2. AI equipment's(kit bag + accessories)
3. Milk storage tanks
4. Tub washer, Canwasher
5. Solar system
6. Packing machineries
7. Plate hat type chillers
8. Milk pumps and tankers
9. Curd processing equipments

III. Procurement and input wing

Most of the rural people especially women make their livelihood by rearing milch animals and by supplying milk to the Co-operatives. There were wide disparities in the prices paid for milk in flush season and in the summer months no scientific system of payment related to quality existed. Adulteration of milk was rampant. The collection machinery was erratic and farmers were at the mercy of the agents or middlemen who often forced the milk producers to sell at distress prices. Enhancing the production of livestock is absolutely essential. The production cost of cattle feed coupled with erratic supply of green fodder due to frequent drought condition further aggravate the situation. Hence, improving fodder production by promoting high yielding fodder varieties is needed.

The major interventions are

1. DPCMU
2. Vertinery medicines
3. Fodder seed materials
4. Bulk coolers
5. Milk cans
6. Electronic weighing scales
7. Milking machine
8. Cow shed
9. Cryogenic containers
10. Equipments for artificial insemination

IV.Quality Control

Quality control in cattle feed plant is of utmost importance for overall success and profitability of animal enterprises. No other factor, directly or indirectly related to proper nutrition and high performance of animals is more critical than feed quality control and ration consistency. The degree of quality is the consistency in which feed is formulated, processed, produced and delivered as compared to what is expected. The relationship between feed quality and animal performance is important and encompasses not only the quantitative amounts of all feed components but also the digestibility and metabolism of those components. Thus main objectives of the quality control are the quality of cattle feed should confirm to laid down specifications so as to maintain the animals in optimum health and production. It also helps the milk producer to ensure that the product offered is properly labelled and supplied wholesome as feed for their livestock. For

manufacturer, it is an attempt to protect from unscrupulous competitors who might misrepresent their products to the consumers. Thus, it is meant to safeguard the interests of both the producer and the consumer. Thus the following interventions are suggested to implement in this district.

1. Adulteration detection equipments in all the blocks
2. Milk testing equipments and laboratory in all blocks

V. Marketing Section

The price of a product in the market is an important factor influencing consumer demand. Hence to be marketable, a dairy product must be competitively priced. This implies that the costs involved in raw material procurement, processing, packaging, storage, marketing and distribution must be kept as low as possible.Hence it's necessary to implement the following interventions for processing the dairy products of this district such as

1. Establishment of parlour structures
2. Milk product storage cabinets
3. Product billing systems

VI.Capacity Building

Development of high quality human resources for timely and efficient implementation of activities under dairy development is considered essential to manage the continuous metamorphosis taking place in the dairy sector. Hence it is necessary to implement the following intervention in order to enhance the dairy production

1. Infertility camp
2. Training of personeel of MPCs union and federation

Budget

The budget requirement for fulfilling the various above interventions is **₹ 28448.25 lakhs**. The details of budget requirement for each intervention across the blocks are shown in Table.

Implementing agency

The projects will be implemented by the Department of Dairy Development. The progress of the projects will be monitored by Director of Dairy Development.

Table 4.23. Budget requirement for dairy development

(₹in lakhs)

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Engineering section															
1	Electrical installation like Tranformemr, UPS, Stabilisers, Control Panel MCC etc.,	1	25	All blocks	1	25.00	1	25.00	1	25.00	1	25.00	1	25.00	5	125.00
2	Milk Storage Tanks of various capacities	1	15	All blocks	3	45.00	3	45.00	3	45.00	3	45.00	3	45.00	15	225.00
3	Tub washer, Canwashers, Crate conveyor systems.	1	10	All blocks	1	10.00	1	10.00	1	10.00	1	10.00	1	10.00	5	50.00
4	Point of Sale Machines and billing systems	1	0.25	All blocks	25	6.25	25	6.25	25	6.25	25	6.25	25	6.25	125	31.25
5	SS pipes and fittings	1	5	All blocks	2	10.00	2	10.00	2	10.00	2	10.00	2	10.00	10	50.00
6	Solar system for water heating	1	2	All blocks	3	6.00	3	6.00	3	6.00	3	6.00	3	6.00	15	30.00
7	Packing Machineries for milk, Butter, Ghee, SMP and Other Milk products	1	18	All blocks	0	0.00	2	36.00	1	18.00	1	18.00	1	18.00	5	90.00
8	Plate Heat type Chillers and pasteurizers	1	10	All blocks	2	20.00	2	20.00	2	20.00	2	20.00	2	20.00	10	100.00
9	Milk Tankers of various capacities	1	25	All blocks	1	25.00	1	25.00	1	25.00	1	25.00	1	25.00	5	125.00
10	Milk Pumps of Vaious capacities	1	0.5	All blocks	9	4.50	9	4.50	9	4.50	9	4.50	9	4.50	45	22.50
11	Generator of various capacities	1	20	All blocks	0	0.00	1	20.00	0	0.00	1	20.00	0	0.00	2	40.00
12	Curd processing equipments	1	50	All blocks	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	50.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
13	Cleaning In Place equipments with accessories	1	75	All blocks	0	0.00	0	0.00	0	0.00	1	75.00	0	0.00	1	75.00
	Procurement and Input															
14	Veterinary Medicine	1	2	All blocks	7	14.00	7	14.00	7	14.00	8	16.00	9	18.00	38	76.00
15	Two wheeler for AI technician	1	0.5	All blocks	21	10.50	21	10.50	21	10.50	21	10.50	21	10.50	105	52.50
16	Computer system with accessories	1	0.5	All blocks	21	10.50	21	10.50	21	10.50	21	10.50	21	10.50	105	52.50
17	Fodder seed materials	1	0.25	All blocks	21	5.25	21	5.25	21	5.25	21	5.25	21	5.25	105	26.25
18	Fodder development equipments like chaff cutter, Mower etc.,	1	0.2	All blocks	21	4.20	21	4.20	21	4.20	21	4.20	21	4.20	105	21.00
19	Bulk Milk coolers of Various capacities	1	15	All blocks	10	150.00	10	150.00	10	150.00	10	150.00	10	150.00	50	750.00
20	Milk cans	1	0.035	All blocks	1000	35.00	1000	35.00	1000	35.00	1000	35.00	1000	35.00	5000	175.00
21	Electronic weighing scales of various capacities.	1	0.3	All blocks	55	16.50	55	16.50	55	16.50	55	16.50	55	16.50	275	82.50
22	Electronic milk testing equipments	1	1.25	All blocks	45	56.25	45	56.25	45	56.25	45	56.25	45	56.25	225	281.25
23	Milking machine	1	0.8	All blocks	100	80.00	100	80.00	100	80.00	100	80.00	100	80.00	500	400.00
24	Cow shed	1	5	All blocks	25	125.00	25	125.00	25	125.00	25	125.00	25	125.00	125	625.00
25	Society Buildings	1	20	All blocks	25	500.00	25	500.00	25	500.00	25	500.00	25	500.00	125	2500.00
26	Cryogenic containers	1	0.35	All blocks	30	10.50	30	10.50	30	10.50	30	10.50	30	10.50	150	52.50
27	Equipments for Artificial Insemination	1	0.5	All blocks	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
	Capacity building															
28	Training of personnel of MPCS, Union and Federation.	1	0.05	All blocks	500	25.00	500	25.00	500	25.00	500	25.00	500	25.00	2500	125.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
29	Infertility Camps	1	0.2	All blocks	100	20.00	100	20.00	100	20.00	100	20.00	100	20.00	500	100.00
	Marketing															
30	Parlour structures	1	5	All blocks	50	250.00	50	250.00	50	250.00	50	250.00	50	250.00	250	1250.00
31	Milk product storage cabinets	1	0.3	All blocks	100	30.00	100	30.00	100	30.00	100	30.00	100	30.00	500	150.00
32	Product Billing systems	1	0.3	All blocks	100	30.00	100	30.00	100	30.00	100	30.00	100	30.00	500	150.00
	Quality control															
33	Adulteration detection equipments	1	4	All blocks	2	8.00	2	8.00	2	8.00	2	8.00	2	8.00	10	40.00
34	Milk testing equipment and Laboratory.	1	5	All blocks	2	10.00	2	10.00	2	10.00	2	10.00	2	10.00	10	50.00
	Processing															
35	Skim Milk powder Plants	1	6000	All blocks	0	0.00	1	6000.00	0	0.00	0	0.00	0	0.00	1	6000.00
36	Water Treatment Plants. Reverse Osmosis plant	1	100	All blocks	0	0.00	1	100.00	1	100.00	1	100.00	1	100.00	4	400.00
37	Effluement treatment plant	1	100	All blocks	0	0.00	0	0.00	0	0.00	2	200.00	0	0.00	2	200.00
38	Steam raisning plant with accessories	1	100	All blocks	0	0.00	0	0.00	1	100.00	0	0.00	0	0.00	1	100.00
39	Fat handling equipments	1	200	All blocks	1	200.00	1	200.00	0	0.00	0	0.00	0	0.00	2	400.00
40	Dairy equipments	1	50	All blocks	2	100.00	2	100.00	2	100.00	2	100.00	2	100.00	10	500.00
	Civil work Infrastructure															
41	Construction of Dairy	1	1500	All blocks	0	0.00	0	0.00	1	1500.00	0	0.00	0	0.00	1	1500.00
42	Construction of Skim milk powder Plant	1	1500	All blocks	0	0.00	1	1500.00	0	0.00	0	0.00	0	0.00	1	1500.00
43	BMC buildings	1	15	All blocks	10	150.00	10	150.00	10	150.00	10	150.00	10	150.00	50	750.00
44	Cattle feed Plants	1	5000	All blocks	0	0.00	1	5000.00	0	0.00	0	0.00	0	0.00	1	5000.00
45	Ice cream and dairy product buildings	1	2500	All blocks	0	0.00	0	0.00	1	2500.00	0	0.00	0	0.00	1	2500.00

Sl. No	Interventions	Unit	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
46	Ware house for Dairy products	1	200	All blocks	1	200.00	1	200.00	1	200.00	1	200.00	1	200.00	5	1000.00
47	Ware house for Dairy consumables	1	200	All blocks	0	0.00	0	0.00	1	200.00	1	200.00	1	200.00	3	600.00
	Grand Total					**2197.45**		**14853.45**		**6465.45**		**2612.45**		**2319.45**		**28448.25**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

4.9 Fisheries

Fisheries' as a sector is one of the thrust areas in the overall economic development of the State playing a predominant role in its economic activity byits contribution to direct and indirect employment formore than 11 lakh fishers, contributing food securityto a considerable portion of population and earningsubstantial revenue, especially from foreign exchange.The Fisheries sector over the years has transformed from subsistence-based artisanal activities to modern livelihood activities with the application of science and modern technologies in the field of capture fishing and culture fisheries. It is developing as a major industry with diversifications viz., exploring deep sea resources and eco-friendly aquaculture practices forculture of finfish and shell fish, ornamental fish culture, eco-tourism, fish processing parks, mid sea fish processing units, etc.

I. Enhancement of fisheries production

Fisheries sector occupies a very important place in the socio-economic development of the country. It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries, and is a source of cheap and nutritious food besides being a foreign exchange earner. Most importantly, it is the source of livelihood for a large section of economically backward population of the country. The main challenges facing fisheries development in the country includes accurate data on assessment of fishery resources and their potential in terms of fish production, development of sustainable technologies for fin and shell fish culture, yield optimization, harvest and post-harvest operations, landing and berthing facilities for fishing vessels and welfare of fishermen.

With increasing pressure on the world's inland and coastal marine fisheries, increases in production and quality of yield are being sought through the application of a range of enhancement techniques. Which of these is applied depends on the attitude to the natural resource by societies at different levels of economic development. The range of enhancement techniques involves increasing levels of human input and control which raise productivity significantly, but which also raise costs. Introductions have raised production in many areas of the world at the price of the risk of environmental disruption. Stocking is extremely widespread but has generally been applied uncritically. A variety of models are proposed to serve as a basis for more rigorous evaluation of biological and economic effectiveness of this practice. Fertilization of water bodies is used to raise levels of production further. Elimination of unwanted species then becomes necessary to maximize benefits from the target species. Adjustments to the habitats within the water body assist in raising general levels of productivity which culminate in the conversion of

areas of the water into fish ponds or for cage culture. This process has important implications for the social, economic and policy context which necessitates shifts in ownership, finance and education among populations where these types of development occur**.**

In the inland fisheries sector, aquaculture is poised to play a pivotal role in increasing fish production, ensuring food security and enhancing growth of the State's economy. To maximize fish production from an unit area and to generatemaximum income to the fish farmers, the Government has initiated innovative approaches such as stocking of fast growing fish species in the short seasonal water bodies, integrating aquaculture in theexisting irrigation systems / rain water harvesting systems, brood stock development to produce qualityfish fingerlings, promotion of fish culture in farmponds and introduction of cage culture in reservoirsetc.With concerted efforts to mobilize farmers to adopt fish farming, application of appropriate technologies for sustainable fish farming and fish seed production and availability of institutional finance, it would be possible to bring in substantial hikes in the annual fish production from the aquaculture sector within a span of 5 years.

The interventions are

1. Increasing Fishing Efficiency of Inland Fishermen and Fish Farmers
2. Enhancement of Fish production in irrigation tanks and panchayat tanks by stocking fish seeds
3. Promotion of quality fish marketing by traditional fishers by providing moped with ice box
4. Propagation of Fish Culture in Multi-purpose farm ponds in Tamil Nadu

II. Capacity Building

Effective extension support is essential for the promotion of Aquaculture in freshwater and brackish water areas. It is necessary to establish the information centres/data dissemination centres in Fishermen villages, animation camps in fisheries villages, seminars, exhibitions and workshop, and awareness centres for linking the fishing villages, marketing centres and the district offices.

1. Exposure visit to farmers to other states
2. Organization of festival
3. Training to fish farmers

Budget

The budget requirement for fulfilling the above interventions is ₹ **941.00** lakhs

Implementing agency

Department of Fisheries will be implementing the project. The progress will be monitored by commissioner of fisheries and state nodal officers.

Table 4.24. Budget requirement for fisheries developement

(₹in lakhs)

Sl. No	Interventions	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Enhancement of fisheries															
1	Propagation of Fish Culture in Multi-purpose farm ponds in Tamil Nadu	No	0.42	Salem,Veerapandi, Panamarathupatti, Valappady, PN Palayam, Attur, Gangavalli, Thalaivasal, Kolathur, Nangavalli, Mecheri, Omalor,Tharamangalam, Kadaiyampatti, Sangagiri, Idappady, Konganapuram, Mac. Choultry	9	3.78	9	3.78	9	3.78	8.5	3.57	8.5	3.57	44	18.00
2	Promotion of quality fish marketing by traditional fishers by providing mobbed with icebox	No	0.5	Salem, Veerapandi, Valappady, PN Palayam,Attur, Gangavalli, Thalaivasal, Kolathur, Kadaiyampatti, Idappady	55	27.50	50	25.00	45	22.50	45	22.50	45	22.50	240	120.00
3	Increasing fishing efficiency of inland fishermen and fish farmers	No	0.15	Salem, Veerapandi, Ayothiyappatinam,Valappady, PN Palayam,Attur, Gangavalli, Thalaivasal, Kolathur, Omalor, Kadaiyampatti, Idappady	310	46.50	330	49.50	290	43.50	290	43.50	290	43.50	1510	227.00
4	Enhancement of Fish production in irrigation tanks and Panchayat tanks by stocking fish seeds	No	0.04	All Blocks Except Mac. Choultry	1350	54.00	1350	54.00	1325	53.00	1325	53.00	1325	53.00	6675	267.00
5	Biological Control of Aquatic Weeds by Stocking of Grass Carps in Aquatic Weed	No	0.02	Salem, Veerapandi, Valappady, Yerkadu, Attur, Gangavalli, Thalaivasal, Kolathur, Idappady	1050	21.00	1300	26.00	1300	26.00	1900	38.00	1450	29.00	7000	140.00

Sl. No	Interventions	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Infested water bodies															
	Section Total				**2774**	**153.00**	**3039**	**158.00**	**2969**	**149.00**	**3569**	**161.00**	**3119**	**152.00**	**15469**	**772.00**
	Capacity building programme															
6	Exposure visit to farmers to other states	No	0.06	Salem, Veerapandi, Kolathur, Idappady	30	1.80	30	1.80	30	1.80	40	2.40	40	2.40	170	10.00
7	Organisation of Fish festivel	No	5	Salem, Kolathur, Idappady	2	10.00	1	5.00	0	0.00	0	0.00	0	0.00	3	15.00
8	Training to fish farmers	No	0.03	All Blocks	1100	33.00	1100	33.00	1100	33.00	750	22.50	750	22.50	4800	144.00
	Section Total					**45.00**		**40.00**		**35.00**		**25.00**		**25.00**		**169.00**
	Grand Total					**198.00**		**198.00**		**184.00**		**185.00**		**176.00**		**941.00**

4.10. FISHERIES RESEARCH

Fisheries sector occupies a very important place in the socio-economic development of the country. It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a source of cheap and nutritious food, besides being a foreign exchange earner. Most importantly, it is the source of livelihood for a large section of economically backward population of the country. In India, fisheries have always been playing a vital role in providing gainful employment to people, besides securing their food and nutritional security, especially in rural areas. India is the third largest producer of inland capture fish in the world after China and Myanmar. Inland fish production in the country registered an impressive growth of 8 fold in the last 50 years.

Tamil Nadu with its 1076 km of coastline (13 per cent of country's coastline), 1.9 lakh sq. km of Exclusive Economic Zone (EEZ) (9.4 per cent of India's EEZ) and a continental shelf of about 41,412 sq km is one of the leading producers of both marine and inland fish. Tamil Nadu has 3.7 lakh hectare of water spread area suitable for fish culture. It comprises of major reservoirs (52,000 ha.), big/small irrigation tanks (98000 ha.), small lakes and Rural Fishery Demonstration Tanks (158000 ha.) and brackish water areas, swamps, estuaries (63,000 ha.) which are suitable for both capture and culture fisheries. Tamil Nadu is also endowed with rich cold water fishery resources. Apart from this 7400 km length of rivers and canals offer good scope for fisheries development. The Inland Fisheries policy of the state focuses in maximizing the fish production utilizing available inland water resources by adopting scientific freshwater aquaculture management and quality seed production.

Tamil Nadu Fisheries University (TNFU) is the State funded, unitary professional Fisheries University in India imparting education, research and training to enhance fish production and utilization by following the State Agricultural University (SAU) pattern and syllabi. The prominent area of research in the area of aquaculture are: improving the quality of progeny by developing sperm bank, development of techniques for the culture of fin fishes in cages, enhancing the water use efficiency and productivity by bio-floc technology, developing the improved methods of ornamental fish culture and breeding techniques and inventing techniques to prevent and cure fish diseases. Stock assessment of important fishery resources, mapping the fauna and understanding the biology of commercially important and rare species, coastal area and inland waters monitoring for the major pollutants and waste water management are the focus areas of

research. Value addition to fish has been a major focus area and technologies for fish pickle, fish noodles and ready to eat products like fish curry, fish puff, fish cutlet and fish burger have been evolved. Quality control wing of fish processing has evolved several rapid techniques for detection of human pathogens. A separate laboratory for quality monitoring will be built to help the industry.

Project component

- Awareness campaigns on health beneficial attributes of fish
- Production of short films on nutritive value of fish and screening in theatres and television channels.
- Supply of preserved ready to eat and ready to cook fish products through public distribution systems.
- Supply of fish and fish products in mid-day meal programme
- Establishment of KVK in Madurai district
- Supply chain management to promote consumption of framed fresh water fishes
- Stock enhancement and ranching center for indigenous fishes
- Fish Genomic conservation centre

Budget

The proposed intervention will be implemented with a budget outlay of. ₹ **441.60** lakhs.

Project implementing agency

The project will be implemented by the Tamil Nadu Fisheries University. The progress of the work will be monitored by the Vice Chancellor and Nodal Officer of the concerned project.

Expected outcome

The implementation of the project will trigger the adoption of cage farming in the inland fisheries system.

4.25. Budget requirement for Fisheries Research (TNFU)

(₹in lakhs)

Sl. No	Interventions	Unit cost	Block Covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	**Aquaculture**														
a	**Enhancement of per capita consumption of fish**														
1	Awareness campaign on health beneficial attributes of fish	0.005	Salem	52	0.26	52	0.26	52	0.26	52	0.26	52	0.26	260	1.30
2	Production of short films on nutritive value of fish and screening in theatres and television channels	50	Salem	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00	1	50.00
b	**Ensuring nutritional security through fish and fishery products**														
3	supply of preserved ready to eat and ready to cook fish products through public distribution sytems	12.9	Salem	0	0.00	1	12.90	0	0.00	0	0.00	0	0.00	1	12.90
4	Supply of fish and fish products in mid day meal programme	12.9	Salem	0	0.00	1	12.90	0	0.00	0	0.00	0	0.00	1	12.90
5	Supply chain management to promote consumption of farmed freshwater fishes	64.5	Salem	0	0.00	1	64.50	0	0.00	0	0.00	0	0.00	1	64.50
2	**Fish resource management and conservation**														
a	**Indigenous fisheries reseource conservation centres**														
b	Stock enhancement and ranching center for indigenous fishes	300	Salem	0	0.00	0	0.00	0	0.00	0	0.00	1	300.00	1	300.00
c	Fish Genomic conservation centre	400	Salem	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	**Fisheries Engineering**														
	Grand total				**0.26**		**90.56**		**50.26**		**0.26**		**300.26**		**441.60**

4.11 PUBLIC WORKS DEPARTMENT (WRO)

Increasing the ground water level

With the declining and erratic rainfall, it has become necessary to go in for *Insitu* water conservation. Further, the loss of top soil through erosion needs to be controlled tomaintain the soil fertility. The promotion of water conservation measures will help in increasing the ground water table. There is a need for farmer's participation not only in theconstruction of infrastructure but also in its maintenance to the benefits. The man source of water for tanks is monsoon rains. The run off of the rain water needs to be reduced and store the water in the village itself. Most of the canals and tanks are silted and bushes are occupied in the major part of the tanks and canals, which are major source of flow water for tanks during the rainy period. There by, storage capacity of the tank is very much reduced. Hence, to raise the water table level, construction of check dams, anicuts, Rehabilitations and dividing dams need to be taken up in canals to increase the storage capacity of the tanks and there by crop cultivation area in tank ayacut area may be increased.

Project components

- Construction of check dams across the rivers
- Construction of anicut in different rivers
- Construction of a recharge structures and
- Formation of new tanks
- Rehabilitation of tanks

Budget

It is proposed to incur Rs.**111.66 crores** over a period of five years

Expected outcome

The project will increase the Ground water table level and carrying capacity of canals during the heavy rain period and thereby increasing the crop cultivation area. This will result in the ensuring of food security for the people.

Implementing agency

Department of Public Works will be implementing the project. The progress of the project will be monitored by state nodal agency and head of state department.

Table 4.26. Budget estimate for PWD (WRO)

(₹in lakhs)

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Construction of a Recharge structure across Vasista River in Kottambadi (Ramanaickenpalayam) in Attur Taluk of Salem District	No	200.00	Pethanaicken palayam	1.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	200.00
2	Formation of Tank across Ponniar in Chokkanur Agraharam in Gangavalli Taluk of Salem Dt	No	2100.0	veeraganur	1.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2100.00
3	Diversion of Surplus Water from Kattaru in Chinnakalrayan Therku Nadu Village at Kaikan Valavu in Pethanaickenpalayam Taluk of Salem Dt to Kariakovil Reservoir in Pethanaickenpalayam Taluk in Salem Dt.	No	893.00	Pethanaicken palayam	1.00	893.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	893.00
4	Construction of a Recharge Structure across jungle stream in Jangamma Samudaram Village of Gangavalli Taluk	No	69.00	Ganagavalli	1.00	69.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	69.00

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	of Salem Dt .															
5	Construction of a Recharge Stucture across Sarabanga River S.F. no 589 near Sanakkalthittu in Desavilakku village inOmalur Taluk of Salem District.	No	9.44	Thara mangalam	22.26	210.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.26	210.10
6	Construction of a check dam across Sarabanga River near Dadhapuram village in Idapadi Taluk of Salem District.	No	6.47	Idapadi	21.25	137.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.25	137.50
7	Rehabilitation of Thumbalkattupallam Tank sluice and irrigation channel in Alamarathupatty Village	No	95.00	Kolathur	1.00	95.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	95.00
8	Rehabilitation of Kombai anicut in Danishpet Village	Ha	10.83	Kadayampatty	18.46	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.46	200.00
9	Rehabilitation and improvements to water course on the upstream side of Edappadi large tank in Edappadi village of Edappadi taluk in Salem district.	Ha	4.22	Edappadi	165.84	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	165.84	700.00

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
10	Construction of a Recharge Structure in S.F.No 165 of Manna Kadu of Manivilundan Village in Attur Taluk of Salem Dt.	No	218.00	Thalaivasal	0.00	0.00	1.00	218.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	218.00
11	Construction of a Recharge Structure in S.F.No 105 of Muthalai Maduvu river in Ponnarampatti village in Valapadi Taluk In Salem dt.	No	151.00	Valapadi	0.00	0.00	1.00	151.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	151.00
12	Construction of a Recharge Structure in S.F.44 of Thumbal Village in Attur Taluk In Salem Dt	No	121.00	Belur	0.00	0.00	1.00	121.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	121.00
13	Rehabilitation of Semmalaisivilikarau Tank Bund, Weir and Apron in Tharkadu Viilage	Ha	0.68	Kolathur	0.00	0.00	124.23	85.00	0.00	0.00	0.00	0.00	0.00	0.00	124.23	85.00
14	Rehabilitation of K.Morur Tank in Kanuvaipudur Village	Ha	1.41	Kadayam patty	0.00	0.00	85.02	120.00	0.00	0.00	0.00	0.00	0.00	0.00	85.02	120.00
15	Rehabilitation of Mettur East Bank Main Canal from LS 32600 M to 44800 M in Salem District.	Ha	2.07	Edappadi, Sankari	0.00	0.00	1328.30	2750.00	0.00	0.00	0.00	0.00	0.00	0.00	1328.3	2750.00

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
16	Construction of Kondalampatti anicut across Thirumanimuthar river in Annathanapatti village of Salem south taluk in Salem district.	Ha	1.87	Veerapandi	0.00	0.00	144.13	270.00	0.00	0.00	0.00	0.00	0.00	0.00	144.13	270.00
17	Construction of a Recharge Structure across Vasista River in Kalpaganur Village in Attur Taluk In Salem Dt	No	191.00	Pethanaicken palayam	0.00	0.00	0.00	0.00	1.00	191.00	0.00	0.00	0.00	0.00	1.00	191.00
18	Construction of a Recharge Structure across Swetha river in Udiyarpalayam village in Attur Taluk In Salem Dt .	No	127.00	Attur	0.00	0.00	0.00	0.00	1.00	127.00	0.00	0.00	0.00	0.00	1.00	127.00
19	Construction of a Recharge Structure in S.F.No 666 of Paithur village in Attur Taluk In Salem Dt .	No	76.00	Attur	0.00	0.00	0.00	0.00	1.00	76.00	0.00	0.00	0.00	0.00	1.00	76.00
20	Construction of a Recharge Structure across Periyar River near Amman Nagar in Maavaaru Village of Gangavalli Taluk of Salem Dt .	No	69.00	Ganagavalli	0.00	0.00	0.00	0.00	1.00	69.00	0.00	0.00	0.00	0.00	1.00	69.00
21	Rehabilitation of Kothaneri Tank Bund and sluice Lakkapuram Village	Ha	0.53	Kolathur	0.00	0.00	0.00	0.00	168.69	90.00	0.00	0.00	0.00	0.00	168.69	90.00

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
22	Rehabilitation and improvements to Neikarapatti tank supply channel in Kondalampatti village of Salem south taluk in Salem district.	Ha	2.33	Veerapandi	0.00	0.00	0.00	0.00	90.28	210.00	0.00	0.00	0.00	0.00	90.28	210.00
23	Construction of a Recharge Structure across Varattar Odai in Valakkombai Village of Gangavalli Taluk of Salem Dt.	No	72.00	Ganagavalli	0.00	0.00	0.00	0.00	0.00	0.00	1.00	72.00	0.00	0.00	1.00	72.00
24	Construction of a Check Dam across Chinnar odai in Thumbal Village in Attur Taluk In Salem Dt .	No	97.00	Pethanaicken palayam	0.00	0.00	0.00	0.00	0.00	0.00	1.00	97.00	0.00	0.00	1.00	97.00
25	Construction of a Check Dam across Chinnar Odai in Thumbal Village in Attur Taluk In Salem Dt .	No	97.00	Attur	0.00	0.00	0.00	0.00	0.00	0.00	1.00	97.00	0.00	0.00	1.00	97.00
26	Rehabilitation of P.N.Patty Tank Irrigation channel virudhasampatty	Ha	0.59	Kolathur	0.00	0.00	0.00	0.00	0.00	0.00	110.77	65.00	0.00	0.00	110.77	65.00
27	Rehabilitation of the Distributories from LS 13800 M to 43200 M in Mettur East Bank Canal in Salem District.	Ha	0.52	Edappadi, Sankari	0.00	0.00	0.00	0.00	0.00	0.00	1822.00	950.00	0.00	0.00	1822.00	950.00

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
28	Rehabilitation and improvements of Thottileri anicut in S.F.No.31 of Sukkampatti village in Salem taluk of Salem district.	Ha	1.86	Ayothia pattinam	0.00	0.00	0.00	0.00	0.00	0.00	29.52	55.00	0.00	0.00	29.52	55.00
29	Rehabilitation and improvements of Agraharanattamangalam anicut in S.F.No.281 of Palapatti village in Salem taluk of Salem district.	Ha	0.55	Ayothia pattinam	0.00	0.00	0.00	0.00	0.00	0.00	82.39	45.00	0.00	0.00	82.39	45.00
30	Construction of Checkdam across Thirumanimuthar river in Kuppanur village of Salem taluk in Salem district	Ha	3.49	Ayothia pattinam	0.00	0.00	0.00	0.00	0.00	0.00	17.20	60.00	0.00	0.00	17.20	60.00
31	Construction of Checkdam in Seradimalai Village in Gangavalli Taluk In Salem Dt .	No	153.00	Ganagavalli	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	153.00	1.00	153.00
32	Construction of Checkdam across swetha river in Koodalamalai Village in Gangavalli Taluk In Salem Dt .	No	102.00	Ganagavalli	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	102.00	1.00	102.00
33	Construction of Checkdam across Vasista river in Panaimodal Village	No	128.00	Attur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	128.00	1.00	128.00

Sl. No.	Intervention	Unit	Unit cost	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	in Attur Taluk In Salem Dt .															
34	Rehabilitation of Madhurakaliamman koil Tank Irrigation Channel in Pakkanadu	No	0.40	Edappady	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	175.0	70.00	175.00	70.00
35	Rehabilitation and improvements to Mannarpalayam direct channel in Mannarpalayam village of Salem taluk in Salem district.	No	2.07	Salem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.60	80.00	38.60	80.00
36	Rehabilitation and improvements to Poola eri tank supply channel LS 0m to 550m in Kottamettupatti village of Omalur taluk in Salem district.	No	0.82	Omalur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.17	60.00	73.17	60.00
37	Construction of Checkdam across Eastern Sarabanga river in Sakkarachettipatti village of Omalur taluk in Salem district.	No	2.25	Omalur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.20	50.00	22.20	50.00
	Total					**4604.60**		**3715.00**		**763.00**		**1441.00**		**643.00**		**11166.60**

4.12. Agriculture Cooperation

Cooperatives all over the world have become an effective and potential instrument of economic development. The Cooperative Movement in Tamil nadu has witnessed over the decades substantial growth in diverse areas of economy. There is not a single major sphere of economic activity which has not been touched by Cooperatives. Cooperatives are also envisaged as an instrument for implementing many important policies like agricultural credit, urban credit, market intervention and price support for agricultural commodities through Cooperative Wholesale stores, Public Distribution System etc., from a small beginning, the Cooperative movement in Tamil Nadu has grown in strength over the years. From Agricultural Banks to Marketing societies and Consumer Cooperatives provide service to the people in various economic activities. Cooperatives also run the Public Distribution System which provides relief to each and every family in the state.

Project components

a) Office infrastructure such as office buildings, compound wall, office renovation, furniture, soalr panels and hand billing machine
b) Capital Asset Creation such as godown renovation, processing unit, drying yard and equipments etc.

Budget

It is proposed to incur ₹.**1762.04** lakhs over a period of five years

Expected outcome

The expected outcome for the project agricultural credit, urban credit, market intervention, and price support for agricultural commodities through Cooperative Wholesale stores, Public Distribution system. This will result in the ensuring of food security for the people.

Implementing agency

Department of Agriculture Cooperation will be implementing the project.

Table 4.27. Budget estimate for Agriculture Coperation

(₹ in Lakhs)

Sl. No.	Co-operation	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Construction of Compound wall	B1, B2, B3, B4, B5, B7, B10, B11, B12 and B13	11	206.85	10	107.40	8	98.50	7	124.00	6	82.20	42	618.95
2	Construction of Godown	B4 and B13	0	0.00	0	0.00	3	103.00	0	0.00	0	0.00	3	103.00
3	Construction of Office Building	B4, B5, B6, B9, B10, B11 and B13	3	105.00	5	157.00	3	69.00	0	0.00	1	25.00	12	356.00
4	Construction of Road	B12	0	0.00	0	0.00	0	0.00	1	60.00	0	0.00	1	60.00
5	Constuctuion of Drying Yard	B4	0	0.00	0	0.00	0	0.00	0	0.00	1	35.00	1	35.00
6	Establishment of Auction yard	B12	0	0.00	0	0.00	0	0.00	1	25.00	0	0.00	1	25.00
7	Establishment of Processing unit	B12	0	0.00	1	1.31	0	0.00	0	0.00	0	0.00	1	1.31
8	Renovation of Auction yard	B12	0	0.00	0	0.00	1	5.00	1	5.00	1	5.00	3	15.00
9	Renovation of compound wall	B12	0	0.00	1	15.60	0	0.00	1	20.00	0	0.00	2	35.60
10	Renovation of Godown	B2 and B12	0	0.00	0	0.00	0	0.00	1	5.00	3	11.90	4	16.90
11	Renovation of Tender Hall	B12	0	0.00	1	15.00	0	0.00	0	0.00	0	0.00	1	15.00

Sl. No.	Co-operation	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
12	Strengthening of Cooperation Centres (Furniture's, Solar panel, Modern counter, Xerox machine, Air Conditioner, CCTV Camera, Bore well, Generator, UPS Battery, Cash Counting Machine, Invertor, Jewel Weighing Machine, Packing Machine, Purchase of computer and peripherals, Hand Billing machine, LED Display for tender process, Purchase of	All Blocks	16	146.00	40	57.03	44	38.25	38	77.25	30	24.00	168	342.53

Sl. No.	Co-operation	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Jewel Carat Meter, Smart Card Printing Machine, Burglary Alarm, Agricultural Equipments, Safety Locker, Purchase of Display racks, Defender Door, Purchase of Paddy drying machine, Automatic Printer machine, Conveyer, E-Tender process, Fork Lifter, Gunny Bag Stitching machine, Jewel tester, Pallets, Tarpaulin, Trolley and Printing Press machineries)													
13	Amenities for Cooperative	All Blocks	0	0.00	2	31.00	0	0.00	0	0.00	0	0.00	2	31.00

Sl. No.	Co-operation	Blocks covered	2017-18		2018-19		2019-20		2020-21		2021-22		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Centres (RO Water unit, Sanitation, Vehicle Parking Shed, Construction and renovation of Marriage Hall, Construction and renovation of amenity centres)													
	Total			**489.60**		**403.84**		**343.25**		**331.25**		**194.10**		**1762.04**

Attur-B1, Ayothiyapattinam-B2, Gangavalli-B3, Idappady-B4, Kadayampatti-B5, Kolathur-B6, Konganapuram-B7, Mac.Choultry-B8, Mecheri-B9, Nangavalli-B10, Omalur-B11, P.N.Palayam-B12, Panamarathupatti-B13, Salem-B14, Sankari-B15, Thalaivasal-B16, Tharamangalam-B17, Veerapandy-B18, Velapady-B19, Yercaud-B20

Table 4.28 Budget Abstract for Salem District

(₹in lakhs)

Sl. No	Sectors	2017-18	2018-19	2019-20	2020-21	2021-22	Total
1	Agriculture	5973.53	5105.31	3355.43	2666.89	2770.72	19871.76
2	Agricultural Research (TNAU)	112.00	233.00	186.00	37.00	210.00	778.00
3	Horticulture	3932.37	4156.79	4473.35	4764.27	4920.67	22247.44
4	Agricultural Engineering	2198.05	2141.64	1946.16	1997.95	2215.34	10499.14
5	Agricultural Marketing	1216.11	1630.76	2189.85	2790.05	2797.25	10624.00
6	Seed Certification & Organic Certification	23.36	0.00	13.36	0.00	0.00	36.72
7	Animal Husbandry	986.25	1149.25	1089.25	859.25	839.25	4923.25
8	Animal Science Research (TANVAS)	0.00	0.00	0.00	0.00	0.00	0.00
9	Dairy Development	2197.45	14853.45	6465.45	2612.45	2319.45	28448.25
10	Fisheries	198.00	198.00	184.00	185.00	176.00	941.00
11	Fisheries Research (TNFU)	0.26	90.56	50.26	0.26	300.26	441.60
12	Public Works Department (WRO)	4604.60	3715.00	763.00	1441.00	643.00	11166.60
13	Civil Supplies & Co-Operation	489.60	403.84	343.25	331.25	194.10	1762.04
	Total	**21931.58**	**33677.6**	**21059.36**	**17685.37**	**17386.04**	**111739.8**

The total budget requirement for the implementation of various interventions by different departments is **Rs. 111739.8 lakhs.**


KARNATAKA
KERALA
SRI LANKA