NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)

DISTRICT AGRICULTURE PLAN

THIRUVALLUR DISTRICT

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

2008

NATIONAL AGRICULTURE DEVELOPMENT PROJECT –

DISTRICT AGRICULTURE PLAN

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FOREWORD

Date .....

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

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

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

(Q RAM AS AMY)

Coimbatore
June 30, 2008

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PREFACE

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

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

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

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

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

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

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

Date: 30.06.2008

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

EXECUTIVE SUMMARY

Thiruvallur district, a newly formed district bifurcated from the erstwhile Chengalpattu district (on 1st January 1997), is located in the North East part of Tamil Nadu. North Latitude between 12°15' and 13°15'. East Longitude between 79°15' and 80°20'. The district is surrounded by Kancheepuram district in the South, Vellore district in the West. Bay of Bengal in the East and Andhra Pradesh State in the North. The district is spread over an area of about 3422Sq.kms.

The total geographical area of the district is 3, 42,243 hectares of which net sown area constitute 35 per cent whereas forest covers 5.8 per cent of the total area.

The district has been divided into three revenue divisions *viz.*, Thiruvallur, Tiruttani and Ponneri. There are three taluks under Thiruvallur division, two taluks under Tiruttani divisions and three taluks under Ponneri division. There are 46 firkas and 820 revenue villages. Likewise there are 14 blocks, 6 Municipalities and 19 town panchayats which implement rural development activities.

The soil of the district is mostly sandy mixed with soda or other alkali or stony. The soil found in the coastal region is sandy soil, suitable for casuarina plants.

The average rainfall of the district is 1104.4 mm, of which the North East monsoon contributes to the tune of 690 mm.

Apart from seasonal rivers like Kesathaliar, Aravar, Nandi, Kallar, Coovam and Buckhingham Canal there is no perennial river in the district. Since these seasonal rivers are not sufficient, irrigation through tanks, tube wells and open wells are very common.

The main occupation of the district is agriculture and allied activities Nearly 47% of the total work force is engaged in the agricultural sector.The major crops grown in the district are rice, cumbu - ragi, green gram, black gram, sugar cane and groundnut. Apart

from this, certain horticultural crops like mango, guava and vegetables have also been cultivated successfully. The average area, production and productivity of the Principal crops are as follows:

Animal husbandry is a subsidiary occupation of the district due to the presence of a number of small and marginal farmers. The total coastal area of the district is about 49803 ha and has a coast line of 80 kms for marine fisheries. Prawn/shrimp culture is famous at the coast line of Gummidipoondi and Minjur. The total fish production is to the tune of 11372 tonnes.

SWOT Analysis of the District

Strength

Thiruvallur is a coastal district. The ground water level is good. Because of the availability of rainfall in three seasons and good groundwater potentials farmers are able to cultivate 2 to 3 crops in a year.

As the District in situated near Chennai city there is good market potential for paddy and vegetables. Almost all the villages are connected by good roads to the major district roads and national highways which facilitate a rapid movement of agricultural produce to the markets in Chennai city.

Weakness – Threat

Even though proximity of Chennai city is strength by creating a good market potential for the agricultural produces, in other way it is a major threat and weakness for the development of Agriculture in Thiruvallur District. Due to rapid industrialization around Chennai city the land value has increased manifold so farmers feel it is profitable to sell the lands instead of cultivating crops.

Moreover the proximity to Chennai city has encouraged the real-estate developers to purchase large tracts of land for the construction of residential buildings. Hence the land available for Agriculture is shrinking day by day.

A large quantity of good quality ground water is pumped and transported to Chennai city daily by many private authorized and unauthorized agencies. So the groundwater potential is being depleted in the villages near Chennai city.

As most of the industries are concentrated around Chennai the requirement of labour force is increasing day by day. Labourers find it more remunerative working in industry rather than in agricultural operations. So there is an scarcity of labour to carryout agricultural operations in time.

Opportunities

- The Government should take earnest to stop the conversion of agricultural land to non agricultural purpose.
- Pumping and selling of groundwater should be stopped
- Rainwater harvesting, conservation and recharging of groundwater should be given top priority.
- Use of labour saving implements should be encouraged by giving 50 peer cent subsidy for purchase of labour saving implements like rice transplanter, combine harvester

Various Ongoing Schemes in the District – A brief contextual gist

The Agricultural Department is implementing various schemes for increasing production and productivity of important crops of the district like the ISOPOM – Pulses, Cochin Development Board Assisted Schemes, and ICDP – Rice and Millets Programme and Seed Village Scheme. Integrated Horticulture Development Scheme, Centrally sponsored scheme on Micro – irrigation for Horticultural crops, Tractor hiring scheme, Rain water harvest structure, RIDF – NABARD scheme, Agricultural Mechanization and Micro – irrigation are the other important ongoing schemes.

Interventions proposed during XIth Plan

Under Agriculture various interventions under Soil Health, Seed, INM, IPM, Technology Demonstration, Machinery Equipments, Distribution of Soil Health Cards

and Hybrid and Certified Seeds for gingelly, fodder and hybrid maize are proposed. A full fledged seed testing laboratory is proposed to be set up. Precision Farming, Net House Structure for vegetable production, Package for plant protection, Provision of plastic crates, Banana bunch cover, Banana corm injector and mango harvester and laying out mega demonstration plots are among the interventions proposed under Horticulture. Under Animal Husbandry, feed and fodder development, genetic upgradation, improvement of livestock health are proposed. Under Fishery, development of Lake Fishery, installation of FAD and sea ranching, modernization of fish crafts, markets are proposed. The major interventions under agricultural engineering are introduction of newly developed agricultural machinery / implements, water harvesting structures and soil and water management works. Under Agricultural marketing, establishing commodity groups, contract farming, dissemination of market intelligence and strengthening of market extension centers and regulated markets are proposed. Public Works Department has proposed improvements to tank bunds, sluice, supply channels, inlets and weirs.

The District Plan at a Glance

The district plan covers a range of activities involving crop – specific as well as non- crop – specific development activities. Allied sectors such as horticulture, agricultural engineering, agricultural marketing, animal husbandry, sericulture and fisheries are proposed to be developed under the NADP with investments on popularization of latest technologies, strengthening extension support, farmers training as well as strengthening the required infrastructure facilities needed to spur growth in agricultural and rural sectors.

The total budget outlay for implementing the various interventions under all the sectors from 2008 – 2009 to 2011 – 2012 is Rs. 8005.00 lakhs as detailed in the Table below.

Total Budget for Thiruvallur District

(Rs. in lakhs)

Sl. No.	Implementing Agency	2008-09	2009-10	2010-11	2011-2012	Total cost
1.	Agriculture	278.5265	272.5265	272.5265	272.5265	1096.106
2.	Horticulture	97.455	103.205	103.205	103.205	407.070
3.	Animal Husbandry	2061.674	555.310	246.095	275.915	3138.994
4.	Fisheries	183.700	65.200	65.200	61.400	375.500
5.	Agricultural Engineering	214.050	213.300	198.810	152.690	778.850
6.	Agricultural Marketing	35.550	1271.00	140.32	143.62	1590.48
7.	Public Works Department	618.00	0.000	0.000	0.000	618.000
	Total	**3488.96**	**2480.53**	**1026.16**	**1009.36**	**8005.00**

CHAPTER - I

INTRODUCTION

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

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

Methodology Adopted for Preparation of District Agriculture Plan

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

Major areas of focus

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

(b) Agriculture mechanization;

(c) Activities related to enhancement of soil health;

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

(e) Integrated Pest Management schemes;

(f) Strengthening of Market Infrastructure and marketing development;

(g) Strengthening of Infrastructure to promote Extension Services;

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

(i) Animal husbandry and fisheries development activities;

(j) Study tours of farmers;

(k) Organic and bio-fertilizers;

(l) Innovative schemes.

Collection of Data

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

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

Formulation of District Planning Unit

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

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

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

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

Sensitization Workshop

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

The objectives of National Agriculture Development Programme, preparation of District Agriculture Plans, State Agriculture Plan and Formulation of Project proposals under stream - I and stream - II were discussed in the workshop.

Preparation of draft action plan and presentation in District Collectors Meeting

Based on the baseline information and proposals, draft action plan was prepared and this was presented in the District Collector Meetings held on 08.05.08, 13.05.08, 15.05.08 and 16.05.08 under the chairmanship of District Collector. The meetings were attended by the scientists from TNAU, officials from line departments and the representatives of local bodies wide coverage was given in the media also.

Finalisation

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

CHAPTER - II
GENERAL DESCRIPTION OF THE DISTRICT

2.1 History of Thiruvallur

Thiruvallur is known by the same name from ancient times which specifies the sleeping position of the holy lord "Balaji", in the Veeraragava temple of Thiruvallur. Later people began to refer it by names such as Trivellore and Thiruvallur. Today Thiruvallur is well known, one of the reason being the Veeraragava Temple. The new moon day is very auspicious day for the lord and so for the people of the town.

2.2 History of the District

The district of Thiruvallur has been carved out by bifurcating erstwhile Chengalpattu district (which was renamed as Chengalpattu-MGR/Kancheepuram at the time of 1991 Census). According to the said bifurcation Thiruvallur revenue division which included Thiruvallur , Tiruttani taluks and Uthukkottai and Pallipattu sub-taluks separated from Chengalpattu district along with Ponneri and Gummindipoondi taluks of Saidapet revenue division were merged and this new district was formed. At present this district is comprised of eight taluks namely Ambattur, Gummindipoondi, Ponneri, Uthukkottai, Thiruvallur , Poonamallee, Tiruttani and Pallipattu.

In the far past, this region was under a chain of regimes commencing from the Pallavas during the 7th century ending with the Nawab of Arcot during the early part of 19th century when it came under the British rule. In 1687, the Golkonda rulers were defeated and the region came under the Moghul emperors of Delhi. The towns and villages of this region were the scene of Carnatic wars. Battles are said to have been fought in this region during the struggle for supremacy between the English and French. The town of Pulicat was the earliest Dutch possession in India founded in 1609 which was ceded to the British in 1825. With this, the region came under the British rule which ended on the 15th August, 1947 with India becoming independent.

2.3 Geographical Position

Thiruvallur district, a newly formed district bifurcated from the erstwhile Chengalpattu district (on 1st January 1997), is located in the North East part of Tamil Nadu. North Latitude between 12°15' and 13°15'. East Longitude between 79°15' and 80°20' The district is surrounded by Kancheepuram district in the South, Vellore district in the West. Bay of Bengal in the East and Andhra Pradesh State in the North. The district is spread over an area of about 3422 Sq.kms.

An insight into the early history of this region shows that the region was ruled by kingdoms such as the Pallavas, the Golkondas, the Mughals, the French, the Dutch and also the British.

2.4 Physical Features

The Coastal region is mostly flat while certain areas in Tiruttani and Pallipattu taluks are undulated and even hilly. The types of soil predominantly found are red non-calcareous and coastal alluvial. Also found are sandy soil mixed with soda or other alkali.

The soil found in the coastal region is of the erinaceous type (sandy), suitable for casuarina plants.

2.5 Administrative Structure

The district has been divided into three revenue divisions viz, Thiruvallur , Tiruttani and Ponneri. There are three taluks under Thiruvallur division, two taluks under Tiruttani divisions and three taluks under Ponneri division. There are 46 firkas and 820 revenue villages. Likewise there are 14 blocks, 6 Municipalities and 19 town panchayats which implement rural development activities.

District Administrative Structure

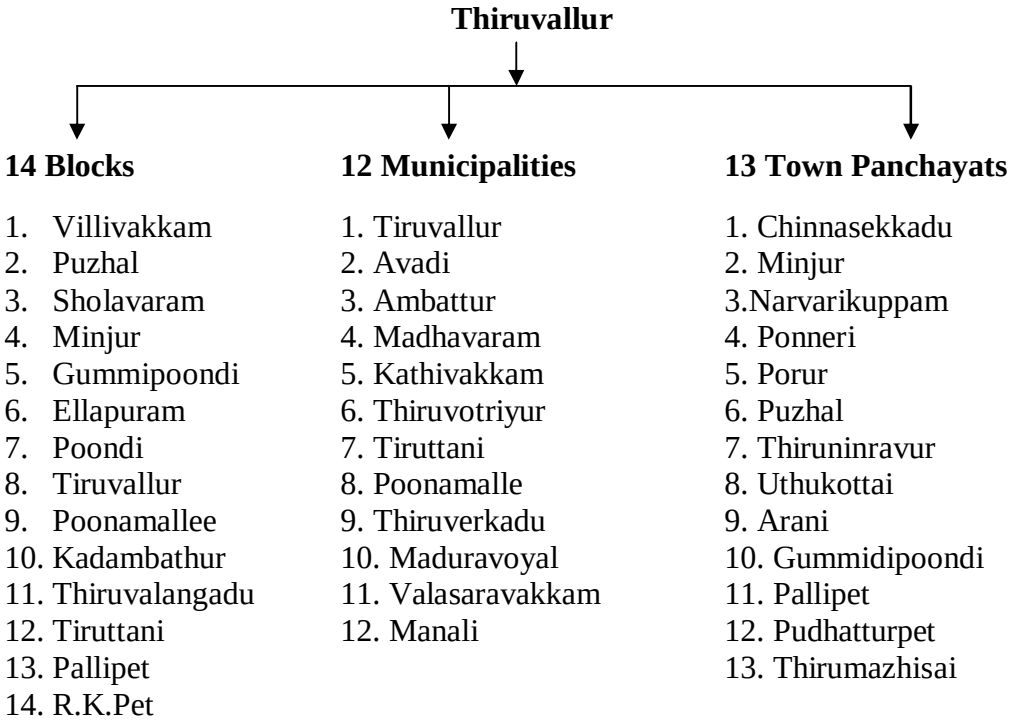


Table 1. Number of Taluks in Thiruvallur District

Sl.No.	Name of the Taluk
1.	Ambathur
2.	Gummidipoondi
3.	Pallipattu
4.	Ponneri
5.	Poonamalle
6.	Tiruttani
7.	Thiruvallur
8.	Uthukottai

Table 2. Number of Blocks in Thiruvallur District

Sl.No.	Name of the Block
1.	Thiruvallur
2.	Kadambathur
3.	Poondi
4.	Ellapuram
5.	Pooamalli
6.	Tiruttani
7.	Thiruvelangadu
8.	Pallipet
9.	R.K.Pet
10.	Gummudipoondi
11.	Minjur
12.	Sholavaram
13.	Puzhal
14.	Villivakkam

2.6. Land Use Pattern

The total geographical area of the district is 3,42,243 hectares of which not sown area constitute 35% whereas forest covers 5.8% of the total area. The nine-fold clarification of the land are pattern is given below.

Table 3. Land Use Pattern in Thiruvallur District (2006-2007)

No.	Classification	Area (ha)	% Share to Total Geographical area
1	Forest	19736	5.77
2	Barren and Uncultivable Land	13727	4.01
3	Land put to Non Agricultural Use	98729	28.85
4	Cultivable waste	8286	2.42
5	Permanent pastures and grazing lands	8142	2.38
6	Miscellaneous tree crops and groves	8280	2.42
7	Current fallows	13361	3.90
8	Other fallow lands	51813	15.14
9	Net area sown	120169	35.11
Total		**342243**	**100**

Source- District Statistical Hand Book

2.7 Rainfall and Climate

The average rainfall of the district is 1104.4 mm, of which the North East monsoon contributes to the tune of 690 mm. The actual rainfall received during the agricultural year 2001 - 02 is 1164.4mm.

The average temperature of the district is Maximum 37.9°C Minimum 18.5°C. Like other parts of Tamil Nadu, hot climate prevails during the month of April - May and humid climate during the rest of the year except December - February when it is slightly cold.

Table 4. Seasonwise Rainfall Data in Thiruvallur District

Year\Season	Winter	Summer	South West Monsoon	North East Monsoon
2003	0	5.6	379.2	310.2
2004	64.0	178.6	378.4	470.0
2005	0	133.0	530.0	1476.4
2006	7.2	109.2	401.1	579.2
2007	4.6	77.6	629.8	652.8

Table 5. Mean and Annual Seasonal Rainfall (mm) (Taluk level) in Thiruvallur District

Taluk	Mean annual rainfall	Winter	Summer	SWM	NEM
Ambathur	1276	8	13	399	856
Gummidipoondi	1478	25	4	571	878
Pallipattu	1039	57	12	364	606
Ponneri	1479	25	4	571	879
Poonamalle	1184	67	14	483	620
Tiruttani	1039	57	12	364	606
Thiruvallur	1057	28	2	400	627
Uthukottai	1039	57	12	364	606

Table 6. Season wise Rainfall Data in Thiruvallur District

S. No	Year	Winter		Summer		SWM		NEM		Total	
		Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual
1	2000-01	32.4	7.0	76.8	120.1	426.9	301.5	546.8	291.0	1082.9	719.6
2	2001-02	32.4	39.2	63.2	26.5	426.9	380.4	546.8	704.4	1069.3	1150.5
3	2002-03	30.5	-	65.7	49.9	447.5	276.6	599.6	495.9	1143.3	822.4
4	2003-04	33.5	16.6	65.7	243.7	449.5	413.7	604.1	376.8	1152.8	1050.8
5	2004-05	33.5	0.2	65.7	123.4	449.5	351.6	604.1	450.0	1152.8	925.2
6	2005-06	33.5	0.2	65.7	64.9	449.5	463.9	604.1	1417.9	1152.8	1946.9

Source- District Statistical Hand Book (2005-2006) – Thiruvallur

Table 7. Soil Series and Types in Thiruvallur District

S. No.	Soil Series	Types	Extent (ha.)
1	Kadambady	Sandy clay loam	59,143
2	Mangalathupatty	Loamy sandy	38,842
3	Vadamadurai	Sandy clay loam	37,213
4	Amapettai	Sandy clay	16,882
5	Vannapatty	Gravelly sand	13,862
6	Suramangalam	Sandy clay	12,801
7	Mattavalam	Sandy clay loam	8,981
8	R.K.Pet	Sandy clay	8,702
9	Mahabalipuram	Sandy	8,346
10	Pallikuppam	Sandy clay loam	6,067
11	Samanthipuram	Sandy	3,019
12	Miscellaneous	Mixed	1,08,649
13	Forest	Humus	19,736

Resource- District Statistical Hand Book (2005-2006) - Thiruvallur

Table 8. Soil Classification

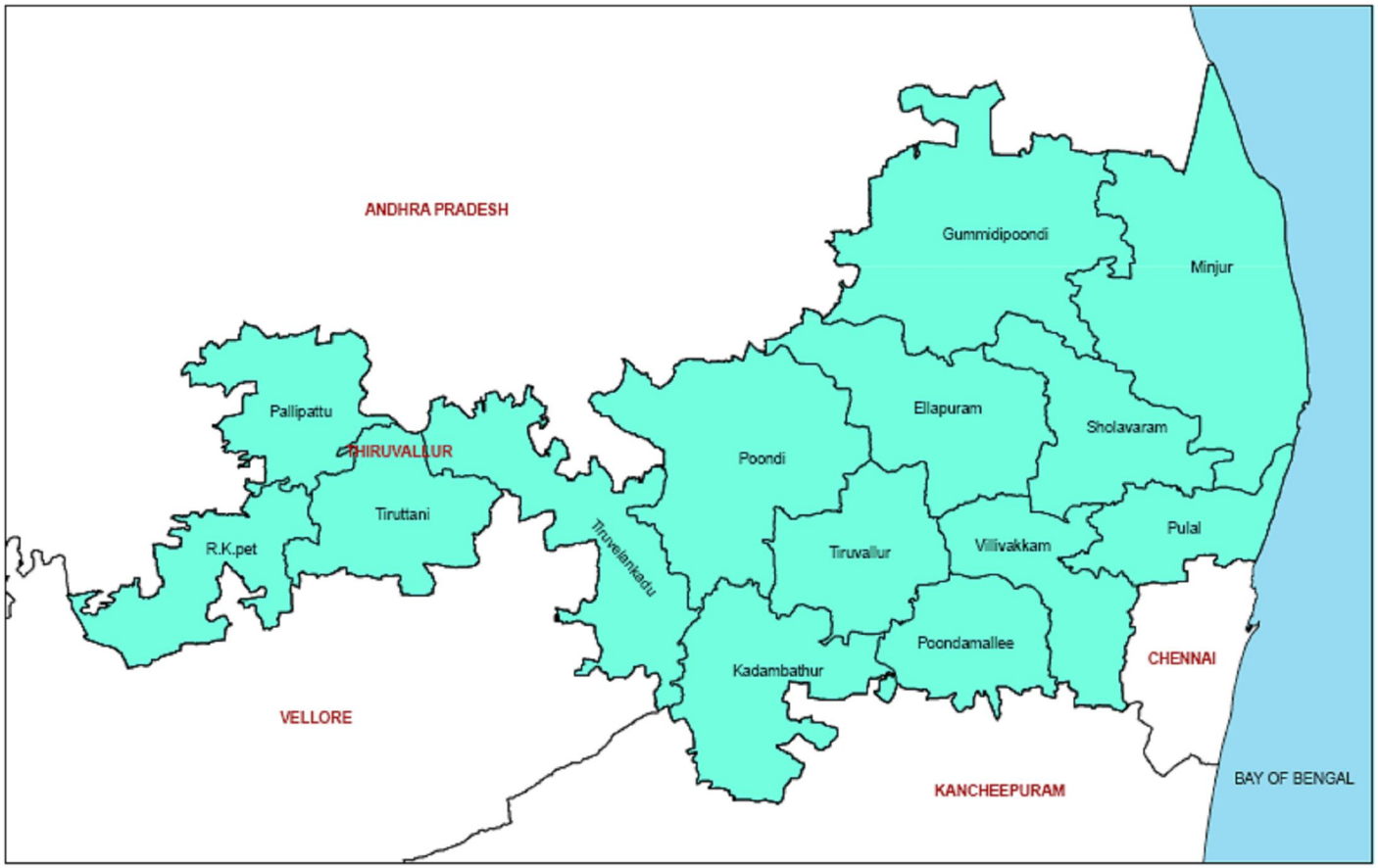
S. No.	Type of Soil	Places in District
1.	Red Loam	Pallipattu
2.	Lateritic soil	Gummidipoondi
3.	Black soil	Thiruvallur, Uthukottai, Poonamalle, Gummidipoondi, Pallipattu, Ambathur
4.	Sandy coastal alluvium	Thiruvallur, Uthukottai, Poonamalle, Gummidipoondi, Pallipattu, Ambathur
5.	Red sandy soil	Pallipattu, Ambathur

Resource- District Statistical Hand Book (2005-2006) - Thiruvallur

Thiruvallur Soils and Area in Hectare

Soil Description	Area (ha)
Moderately deep, fine, mixed, Inceptisols	33157.13
Moderately deep, coarse loamy, mixed, Inceptisols	32583.35
Deep, fine, mixed, Inceptisols	27728.97
Moderately shallow, fine, mixed, Inceptisols	16380.47
Deep, fine, mixed, Alfisols	16337.44
Deep, contrasting particle size, mixed, Entisols	15788.36
Very deep, fine loamy, mixed, Inceptisols	15569.95
Moderately shallow, clayey skeletal, mixed, Inceptisols	15084.86
Moderately deep, clayey skeletal, mixed, Alfisols	11460.47
Deep, fine, montmorillonitic, Vertisols	11241.75
Very deep, clayey skeletal, kaolinitic, Alfisols	9349.94
Deep, sandy, mixed, Entisols	8757.90
Moderately shallow, fine, mixed, Alfisols	8557.91
Very deep, coarse loamy, mixed, Inceptisols	6247.45
Moderately deep, fine loamy, mixed, Alfisols	5685.77
Shallow, clayey, mixed, Inceptisols	5621.19
Very deep, fine loamy, mixed, Alfisols	4011.18
Moderately deep, fine loamy, mixed, Inceptisols	3321.95
Shallow, loamy skeletal, mixed, Entisols	3237.84
Deep, fine loamy, mixed, Inceptisols	3059.20
Deep, coarse loamy, mixed, Inceptisols	3041.96
Deep, fine loamy, mixed, Alfisols	2792.57
Deep, fine, mixed, Ultisols	2561.51
Very deep, fine, kaolinitic, Alfisols	2344.20
Moderately shallow, fine loamy, mixed, Alfisols	1444.30
Moderately deep, fine, montmorillonitic, Inceptisols	1017.78
Deep, fine, montmorillonitic, Inceptisols	793.54
Very deep, sandy, mixed, Entisols	429.99
Moderately deep, fine, mixed, Alfisols	220.03
Moderately shallow, coarse loamy, mixed, Entisols	155.40
Shallow, clayey, mixed, Entisols	90.44
Shallow, clayey skeletal, mixed, Inceptisols	30.02

AGROCLIMATIC ZONES OF THIRUVALLUR DISTRICT



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NORTH EASTERN ZONE

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

NORTH WESTERN ZONE

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

WESTERN ZONE

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

CAUVERY DELTA ZONE

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

SOUTHERN ZONE

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

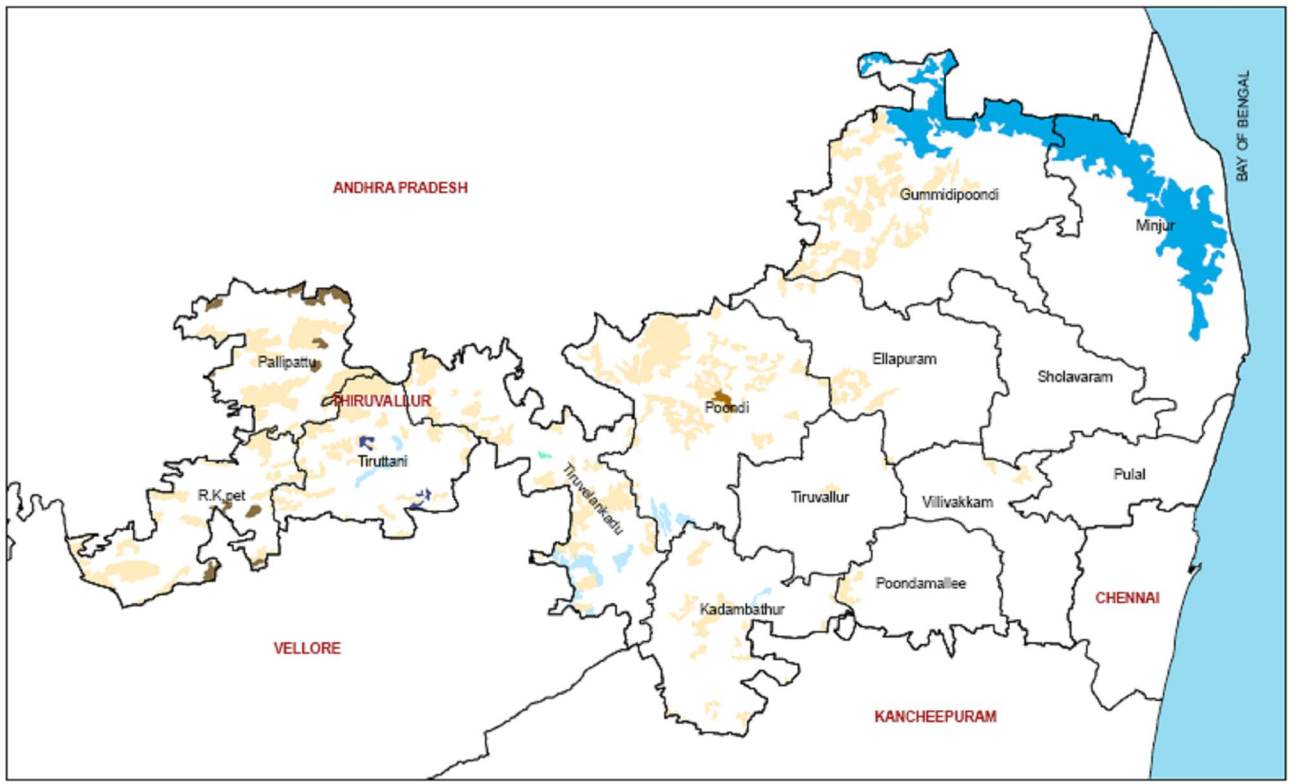
HIGH RAINFALL ZONE

Kanayakumari district.

HIGH ALTITUDE AND HILLY ZONE

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

LAND DEGRADATION MAP OF THIRUVALLUR DISTRICT



EXPLANATION OF DIFFERENT LAND DEGRADATION CATEGORIES

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

Water Erosion

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

1. Sheet erosion

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

2. Rills

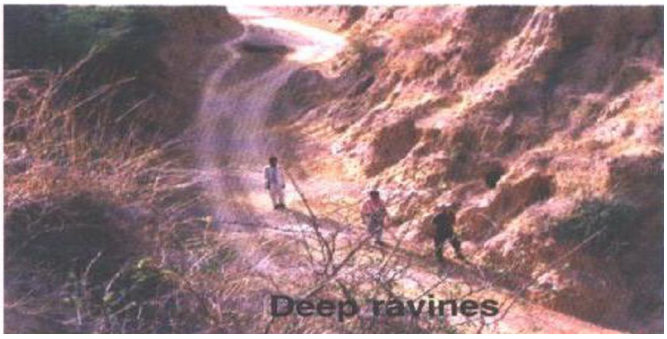
When the surface runoff goes in the form a concentric flow, a tiny water channels are formed in the field. These are small rivulets of such a size that they can be worked over with farm machinery. Rills are generally associated with the cultivated lands and are visible in the ploughed soil after first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

3. Gullies

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

4. Ravines

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



Wind Erosion

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

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

5. Sheet Erosion

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

6. Stabilized Dunes / Partially stabilized Dunes

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

Stabilized sandune

Partially stabilized sanddune

7. Un-stabilized dunes

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

Water logging

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

8. Surface Ponding

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

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

9. Sub-surface Water logging

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

10. Salinization / Alkalization

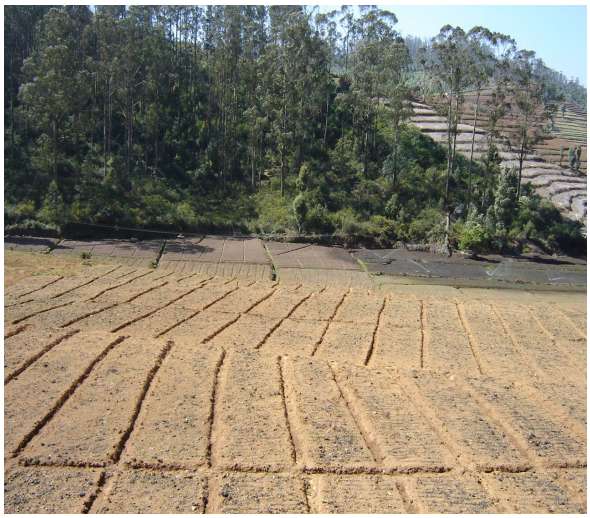
Salinization can result from improper management of canal irrigation water resulting in the rise of water table and consequent accumulation of salts in the root zone in arid, semi-arid and sub humid (dry) conditions and ingress of sea water in coastal regions and/or use of high-salt containing ground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

Salinity

Sodic

11. Acidification

pH is one of the most-important soil property that affects the nutrient uptake by plants and there by influencing the crop productivity. Any soil processes or management practices which lead to buildup of hydrogen cations (also called protons) in the soil will result in soil acidification. It also occurs when base cations such as Calcium, Magnesium, Potassium and Sodium are lost from the soil leading to high hydrogen ion concentration. This results in decrease of soil pH below 6.5. It occurs in laterite regions, coastal regions upon drainage or oxidation of pyrite containing soils. If the pH is 4.5 to 5.5 then they are called *moderate* and if the pH is < 4.5,then they are mapped under *severe* category. The soils respond to lime application, which results in improvement of crop productivity.



Glacial

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

12. Frost Heaving

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

13. Snow covered areas

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

Degradation due to anthropogenic factors

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

14. Industrial effluent affected areas

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

15. Mining and dump areas

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

16. Brick kiln areas

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

Others

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

17. Mass movement/ Mass wastage

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

18. Barren rocky / stony areas

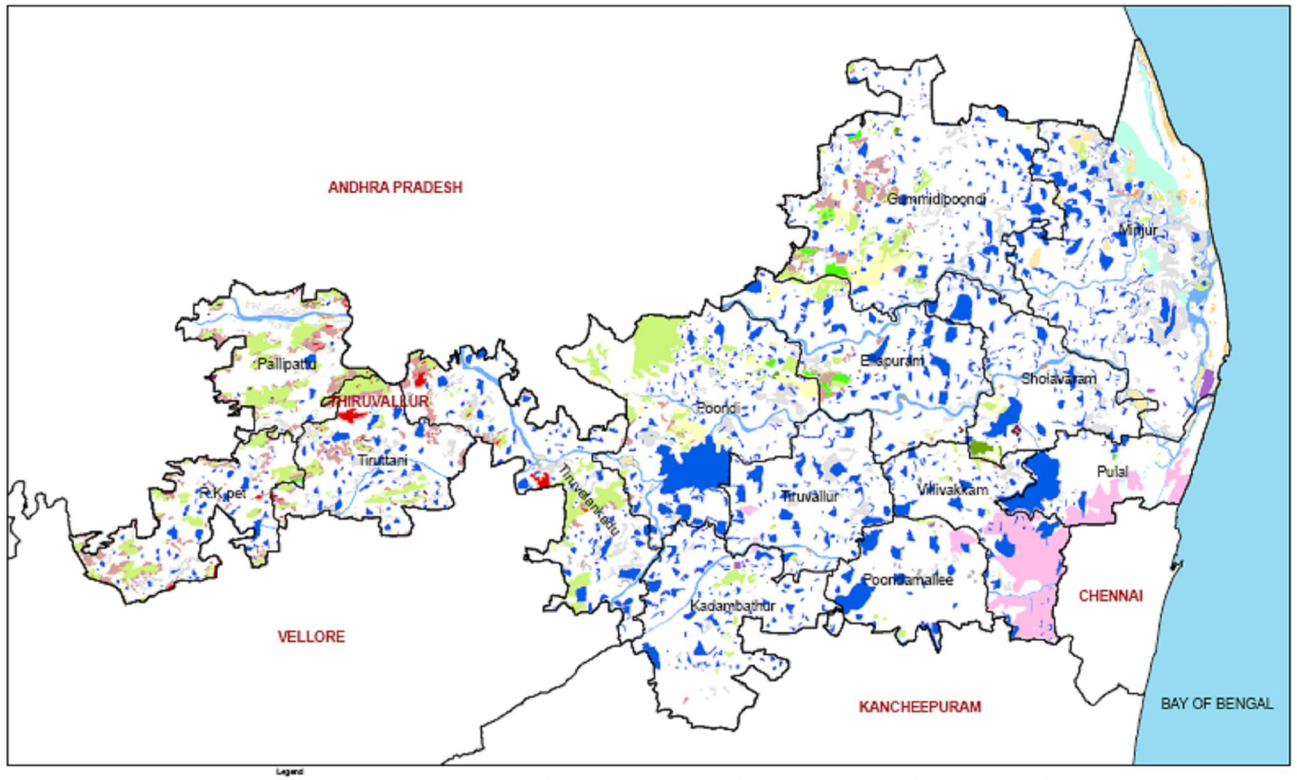
Barren / rocky / stony areas are the rock exposures of varying lithology often barren and devoid of soil and vegetal cover. They occur in hill forests as openings or as isolated exposures on plateau and plains. These can be easily delineated from other type of degraded land because of their severe nature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

19. Miscellaneous

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

Sea Ingress areas

WASTELAND MAP OF THIRUVALLUR DISTRICT



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WASTELAND CLASSIFICATION

Culturable Wastelands

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

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

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

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

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

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

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

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

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

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

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

Unculturable Wastelands

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

i. Barren rocky / stony wastes / sheet rock area.
ii. Steep sloping area – Land with very steep slopes (greater than 35 degrees); Prone to erosion and mass wasting (Landslides).

2.8 Mineral Resources

The district does not contain any precious mineral. However it has a few varieties of major and minor minerals.

Table 9. Mineral Resources in Thiruvallur District

Minor Minerals	
Lime Shell	Pulikat Lake, Sunnambukulam, Annamalaicherry
Silica Sand	Elavoor, Eravanoor, Ennore, Gummidipoondi & Ponneri Taluks
Stoneware Clay	Adhigathur, Odhapai, Gudapakkam Kandigai
Major Minerals	
River Sand	Kosasthaliyar, Araniar, Kallar, Nandi, Coovam
Blue Metal	Pallipattu and Tiruttani Taluks
Gravel	Ponneri and Gummidipoondi Taluks
Brick Clay	Thiruvallur and Ponneri Taluks

2.9 Irrigation

Apart from seasonal rivers like Kesathaliar, Aravar, Nandi, Kallar, Coovam and Buckhingham Canal there is no perennial river in the district. Since these seasonal rivers are not sufficient, irrigation through tanks, tube wells and open wells are very common.

2.10 Animal Husbandry and Fisheries

Animal husbandry is a subsidiary occupation of the district due to the presence of a number of small and marginal farmers. Presently, there are four Government Schemes in operation Viz., Backyard poultry farm, Buffalo Rearing Scheme, Special Animal Husbandry Programme and special campaign to protect animals. There are 5 Veterinary Hospitals, 24 Veterinary Dispensaries, 77 sub-centres and 14 mobile veterinary units catering to the needs of the farming community.

The total coastal area of the district is about 49803 ha and has a coast line of 80 kms for marine fisheries. Prawn/shrimp culture is famous at the coast line of Gummidipoondi and Minjur. The total fish production is to the tune of 11372 tonnes.

2.11 Agriculture

The main occupation of the district is agriculture and allied activities nearly 47% of the total work force is engaged in the agricultural sector.

The major crops grown in the district are rice, cumbu - ragi, green gram, black gram, sugar cane and groundnut. Apart from this, certain horticultural crops like mango, guava and vegetables have also been cultivated successfully. The average area, production and productivity of the Principal crops are as follows:

Table 10. Area and Production of Principle Crops in Thiruvalur District

Principal Crops	Area (Ha)	Production (Tonnes)
Rice	108628	398152
Cumbu	920	1752
Ragi	1712	3773
Green Gram	6600	4013
Black Gram	2791	1317
Sugarcane	7172	817608
Groundnut	30269	85600

2.12.Cropping Pattern-Rainfed/Irrigated (Area under each Crop)

Irrigated condition

Rice - Rice - Rice

Rice - Rice - Groundnut

B.Gram - Rice - Groundnut

Fallow - Vegetables - Rice

Sugarcane

Rainfed condition

Groundnut - Minor millets (Cumbu/Ragi) - Pulses (B.gram/G.gram)

Table 11. Area under different Agricultural Crops in Thiruvallur District

(in ha.)

S. No.	Crop	Varierty	Area (ha) (Irrri)	Area(ha) (Un Irri)	Total Area
1	Paddy (Sornavari)	BPT 5204 IW Ponni ADT 39	34423	4773	39196
2	Paddy (Samba)	ADT 43, ADT 37 ADT (R)45	34067	4980	39047
3	Paddy (Navarai)	ADT 43, ADT 37 A DT (R)45	17814	937	18751
4	Cumbu	ICMV 221	695	759	1454
5	Ragi	Co 7, Co 14	188	33	221
6	G.Gram	KM2, Pusa Vishal	7861	976	8837
7	B.Gram	VBN 3	739	390	1129
8	Redgram	Vamban2, Vamban 3	289	1869	2152
9	Horsegram	Local	0	32	32
9	Sugarcane	CoC 86032 Co 85019 Co C (SC) 2	5500	-	5500
10	Gingelly	TMV 3, TMV 4	1100	-	1100
11	Groundnut	TMV 7, VRI 2 TAG 24, JL 24, Pollachi Red	12800	-	12800
12	Sunflower	Modern Co 4	100	-	100

Table 12. Area under different Horticultural Crops in Thiruvallur District

S. No.	Crop	Area (ha)
1	Mango	17423
2	Banana	794
3	Coconut	900
4	Guava	739
5	Sapota	95
6	Citrus	37
7	Amla	30
8	Chillies	393
9	Brinjal	181
10	Bhendi	93
11	Greens	79

Table 13. Area under different Tree Crops in Thiruvallur District

S. No.	Crop	Area (ha)
1	Casuarina	4706
2	Teak	265
3	Eucalyptus	2762
4	Cashew	342

Table 14. Production of Different Crops in Thiruvallur District

Table 14 a. Production of Cereal Crops

(tonnes)

S.No.	Name of the crop	Production (Rainfed/Dry)	Production (Irrigated)	Season	Total
1	Paddy	-	131182	Sornavari	271582
		-	82774	Samba	
		-	57626	Navarai	
2	Sorghum	31	108	Kharif	139
3	Bajra	1505	838	Kharif	2343
4	Ragi	340	39	Kharif	379
				Total	**274443**

Table 14 b. Production of Pulse Crops

(tonnes)

S.No.	Name of the crop	Production (Irrigated)	Season
1	Red gram	1814	Kharif
2	Greengram	4297	Kharif
3	Blackgram	371	Kharif
4	Horsegram	12	Kharif
5	Others	62	Kharif
Total		**6556**	

Table 14 c. Production of Sugar Crops

(tonnes)

S.No.	Name of the crop	Production (Irrigated)	Season
1	Sugarcane	570279	Kharif

Table 14 d. Production of Spices & Condiments

(tonnes)

S.No.	Name of the crop	Production (Irrigated)	Season
1	Chillies	1681	Kharif
2	Turmeric	28	Kharif
3	Tamarind	182	Kharif

Table 14 e. Production of Tuber Crops

(tonnes)

S.No.	Name of the crop	Production (Irrigated)	Season
1	Tapioca	2560	Kharif
2	Sweet Potato	355	Kharif

Table 14 f. Production of Vegetables

(tonnes)

S.No.	Name of the crop	Production (Irrigated)	Season
1	Brinjal	2790	Kharif
2	Bhendi	903	Kharif
3	Tomato	76	Kharif

Table 14 g. Production of Fruit Crops

(tonnes)

S.No.	Name of the crop	Production (Irrigated)
1	Banana	99486
2	Mango	35348
3	Lemon	45
4	Cashew	138
5	Jack	358
6	Guava	6793

Table 14 h. Production of Oilseeds

(tonnes)

S.No.	Name of the crop	Production (Irrigated)	Production (Unirrigated)	Season
1	Groundnut	43580	11520	Kharif
2	Gingelly	384	313	Kharif
3	Sunflower	200	-	Kharif
4	Coconut	66 lakh nuts		

Table 15. Productivity of Crops in Thiruvallur District

Table 15 a. Productivity of Cereal Crops

(Kg/ha)

S.No.	Name of the crop	Yield (Irrigated)	Yield (Unirrigated)	Season
1	Paddy	3347	-	Sornavari
2	Paddy	2120	-	Samba
3	Paddy	3073	-	Navarai
4	Sorghum	1422	660	Kharif/Rabi
5	Bajra	2165	1104	Kharif/Rabi
6	Ragi	1809	1192	Kharif/Rabi

Table 15 b. Productivity of Pulse Crops

(Kg/ha)

S.No.	Name of the crop	Yield (Irrigated)	Season
1	Redgram	843	Kharif
2	Greengram	486	Kharif
3	Blackgram	328	Kharif
4	Horsegram	365	Kharif

Table 15 c. Productivity of Spices and Codiments

(Kg/ha)

S.No.	Name of the crop	Yield (Irrigated)	Season
1	Chillies	1905	Kharif
2	Tamarind	3782	Kharif

Table 15 d. Productivity of Vegetable Crops

(Kg/ha)

S.No.	Name of the crop	Yield (Irrigated)	Season
1	Brinjal	10690	Kharif
2	Bhendi	7525	Kharif
3	Tomato	12627	Kharif
4	Sweet potato	20857	Kharif
5	Tapioca	38211	Kharif

Table 15 e. Productivity of Fruit Crops

(Kg/ha)

S.No.	Name of the crop	Yield (Irrigated)	Season
1	Banana	49104	Kharif
2	Mango	3555	Kharif
3	Lemon	2523	Kharif
4	Cashewnut	378	Kharif
5	Jack	12346	Kharif
6	Guava	10904	Kharif

Table 15 f. Productivity of Oil seed Crops

(Kg/ha)

S.No.	Name of the crop	Yield (Irrigated)	Yield (Unirrigated)	Season
1	Groundnut	3406	2099	Kharif
2	Gingelly	353	597	Kharif
3	Sunflower	1240	-	Kharif
4	Castor	-	256	Kharif
5	Coconut	4428 nuts/ha		

Table 16. Maximum Yield achieved by different Crops in Thiruvallur District

S.No.	Name of the crop	Season	Max. Yield
1	Paddy	Sornavari/Navarai	7500-8500 Kg/ha
2	Paddy	Samba	4000 kg /ha
3	Bajra	KharifIrrigated	1800 Kg/ha
4	Ragi	Irrigated	1800 Kg/ha
5	Groundnut	Rabi (Irri)	2800 Kg\ha
6	Red gram	Kharif/Rabi (Irri)	900-1000 Kg/ha
7	Greengram	Kharif/Rabi	550kg/ha
8	Blackgram	Kharif/Rabi	500 Kg/ha
9	Chillies	Kharif (Irri)	2000 Kg/ha
10	Brinjal	Kharif (Irri)	12 t/ha
11	Bhendi	Kharif (Irri)	8 t/ha
12	Tomato	Kharif (Irri)	13 t/ha
13	Banana	Irrigated	50 t/ha

Table 17. Current Input use Level for Major Crops in Thiruvallur District (Local and Improved Varieties)

Table 17 a. Crop: Paddy

S.No.	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	60-75	75-85	Navarai/ Sornavari	More than the recommended level
2	Nitrogen (Kg/ha)	120	40-50	Samba	Used recommended quantity in irrigated and less in rainfed and semidry condition
3.	Phosphorus	50	25	Sornavari	Used recommended dose
4.	Potassium	50	25	Sornavari/ Navarai	Used recommended Dose
5.	Weedicides Butachlor(Irri) Pretilachlor(or) Pendimethalin (Dry/Semidry)	 1.25 kg/ha 0.45 kg/ha 1.0 kg/ha		All season	Used recommended Dose
6.	Pesticides Acephate (Pest-Blackbug) Methylodematon/ Dimethoate Disease-RTD/ BBH	500 ml/ha 600 ml/ha		All season All season	Used recommended dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency Zinc deficiency Iron deficiency	Zinc sulphate -25 kg/ha Ferrous sulphate – 50 kg/ha		-	Applied zinc sulphate regulary and ferrous sulphate rarely

Table 17 b. Crop: Bajra [Cumbu]

S.No.	Name of the Input	Irrigated	Rainfed/Dry	Season	Remarks
1	Seed (Kg/ha)	4-5	5-7.5	Chitrai /Adi pattam	Used more than recommendation
2	Nitrogen (Kg/ha)	70	40	Chitrai /Adi pattam	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	35	20	Chitrai /Adi pattam	
4.	Potassium	35	0	Chitrai /Adi pattam	
5.	Weedicides Atrazine (Irri)	500g/ha		Chitrai /Adi pattam	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Shootfly) Carbendazim Sugary disease	500 ml/ha 500 g/ha		Chitrai /Adi pattam	Used recommende dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table c. Crop: Ragi

S.No	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	5	20-25	Karthigai /Thai pattam	Used more than recommendation
2	Nitrogen (Kg/ha)	60	40	Karthigai /Thai pattam	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	30	20	Karthigai /Thai pattam	
4.	Potassium	30	0	Karthigai /Thai pattam	
5.	Weedicides Pedimethalin/ Fluchloralin (Irri)	2.5 L /ha		Karthigai /Thai pattam	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Stemborer) Dimethoate Aphids	1000 ml/ha 500 ml/ha		Karthigai /Thai pattam	Used recommende dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table 17 d. Crop: Blackgram

S. No.	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	20	25-30	Adipattam / Purattasi pattam	Used more than recommendation
2	Nitrogen (Kg/ha)	25	12.5	Adipattam / Purattasi pattam	Used recommended quantity in irrigated and lower dose in rainfed condition
3.	Phosphorus	50	25	Adipattam / Purattasi pattam	
4.	Potassium	25	12.5	Adi pattam / Purattasi pattam	
5.	Weedicides Pedimethalin	2.0 L /ha		Adipattam / Purattasi pattam	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Stemborer)	1000 ml/ha		Adipattam / Purattasi pattam	Used recommended dose
	Dimethoate Aphids	500 ml/ha			Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency Zinc deficiency	25 Kg/ha		-	Applied once in a year / two year

Table 17 e. Crop: Greengram

S. No	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	20	25	Adipattam /Purattasi pattam	Used more than recommendation
2	Nitrogen (Kg/ha)	25	12.5	Adipattam /Purattasi pattam	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	50	25	Adipattam /Purattasi pattam	
4.	Potassium	25	12.5	Adi pattam /Purattasi pattam	
5.	Weedicides Pedimethalin/ Fluchloralin (Irri)	2.0 L /ha		Adipattam /Purattasi pattam	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Stemborer)	1000 ml/ha		Adipattam /Purattasi pattam	Used recommended dose
	Dimethoate Aphids	500 ml/ha			Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency	25 Kg/ha		-	Applied once in a year / two year

Table 17 f. Crop: Red gram

S. No.	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	25	30-40	Adipattam /Purattasi pattam	Used more than recommendation
2	Nitrogen (Kg/ha)	25	12.5	Adipattam /Purattasi pattam	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	50	25	Adipattam /Purattasi pattam	
4.	Potassium	25	12.5	Adi pattam /Purattasi pattam	
5.	Weedicides Pedimethalin/ Fluchloralin (Irri)	2.0 L /ha 1.5 L/ha		-	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Stemborer) Dimethoate Aphids	1000 ml/ha 500 ml/ha		-	Used recommended dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table 17 g. Crop: Sugarcane

S. No.	Name of the Input	Irrigated	Rainfed/Dry	Season	Remarks
1	Setts (Kg/ha)	75000 two budded	-	Karthigai /Thai pattam	Used recommended rate
2	Nitrogen (Kg/ha)	275	-	Karthigai /Thai pattam	Used recommended dose
3.	Phosphorus	62.5	-	Karthigai /Thai pattam	
4.	Potassium	112.5	-	Karthigai /Thai pattam	
5.	Weedicides Atrazine	2.5 Kg /ha		Karthigai /Thai pattam	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Shootorer) Chlorpyriphos Wooly Aphids	1000 ml/ha 500 ml/ha		Karthigai /Thai pattam	Used recommende dose Used recommended dose
7.	FYM	10 t/ha		-	Applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table 17 h. Crop: Groundnut

S. No.	Name of the Input	Irrigated	Rainfed / Dry	Season	Remarks
1	Seed (Kg/ha)	125	140-150	Karthigai /Thai pattam	Used recommended dose
2	Nitrogen (Kg/ha)	17	10	Karthigai /Thai pattam	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	35	10	Karthigai /Thai pattam	
4.	Potassium	54	45	Karthigai /Thai pattam	
5.	Gypsum	200	400	Karthigai /Thai pattam	
6.	Weedicides Fluchloralin (Irri)	2.0 L /ha		Karthigai /Thai pattam	Used recommended dose
7.	Pesticides Chlorpyriphos/ Endosulfan (Pest-RHC) Endosufan Tobacco caterpillar	1200 ml/ha 750 ml /ha 750 ml/ha		Karthigai /Thai pattam	Used recommended dose Used recommended dose
8.	FYM	5-7.5 t/ha		-	Not applied properly
9.	Micro nutrient deficiency Zinc deficiency Boron deficiency	Zinc sulphate Borax		-	Applied whenever the symptom is noticed-

Table 17 i. Crop: Tomato

S. No.	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	400 g/ha	-	May- June or Nov-Dec	Used more than recommendation
2	Nitrogen (Kg/ha)	150	-	May- June or Nov-Dec	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	100	-	May- June or Nov-Dec	
4.	Potassium	50	-	May- June or Nov-Dec	
5.	Weedicides Fluchloralin (Irri)	1L /ha		-	
6.	Pesticides Endosulfan (Pest-Stemborer) Dimethoate Aphids	1000 ml/ha 500 ml/ha		-	Used recommended dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table 17 j. Crop: Brinjal

S.No.	Name of the Input	Irrigated	Rainfed/ Dry	Season	Remarks
1	Seed (Kg/ha)	400 g/ha	-	Dec-Jan	Used more than recommendation
2	Nitrogen (Kg/ha)	100	-	Dec-Jan	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	50	-	Dec-Jan	
4.	Potassium	30	-	Dec-Jan	
5.	Weedicides Fluchloralin (Irri)	1L /ha			Used recommended Dose
6.	Pesticides Endosulfan (Pest-Stemborer) Dimethoate Aphids	1000 ml/ha 500 ml/ha			Used recommended dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table 17 k. Crop: Bhendi

S.No.	Name of the Input	Irrigated	Rainfed/Dry	Season	Remarks
1	Seed (Kg/ha)	7.5	-	Dec-Jan	Used more than recommendation
2	Nitrogen (Kg/ha)	40	-	Dec-Jan	Used recommended quantity in irrigated and rainfed condition
3.	Phosphorus	50	-	Dec-Jan	
4.	Potassium	30	-	Dec-Jan	
5.	Weedicides Fluchloralin (Irri)	2.0 L /ha		Dec-Jan	Used recommended Dose
6.	Pesticides Endosulfan (Pest-Stemborer) Dimethoate Aphids	1000 ml/ha 500 ml/ha		-	Used recommended dose Used recommended dose
7.	FYM	5-7.5 t/ha		-	Not applied properly
8.	Micro nutrient deficiency	Nil		-	-

Table 17 l. Agriculture and Allied Stations situated in Thiruvallur District

State Seed Farm and Seed Processing Unit	Kolanthalur
Coconut Nursery	Madhavaram
Coconut Motherpalm Garden	Putlur
Horticulture Farm and Horticulture Training center	Madhavaram
Rice Research Station	Tirur

2.13. Schemes Implemented to Increase the Productivity and Production

1. Seed multiplication schemes for paddy, millets, pulses and oilseeds.
2. Tamil Nadu Women in Agriculture (TANWA) scheme.
3. Crop and Plant Protection Schemes
4. Coconut Development Programmes
5. Blue Green Algae Production and Distribution scheme
6. Crop Yield Competition
7. Hybrid Rice - on farm Trials

2.14. Schemes Shared by the State and the Central Governments

1. National Watershed Development Project for Rainfed Areas
2. Integrated Cereals Development Programme
3. National Pulses Development Programme
4. Oilseed Production Progamme
5. Sugarcane Development Programme
6. Coconut Development Board Scheme
7. Oilpalm Development Programme

2.15. Number of the Co-Operative Banks and Societies in Thiruvallur District

Primary Land Development Bank	10	Weavers Co-Operative Societies	73
District Central Co-Operative Bank	19	Industrial Co-Operative Societies	13
Urban Banks	1	Khadi and Village Industries Societies	34
Primary Agricultural Credit Societies	134	Primary Co-Operative Societies	19
Housing Co-Operative Societies	25	Co-Operative Sugar Mills	2
Employees Co-Operative Societies	81	Co-Operative Marketing Societies	5
Lift Irrigation Societies	1	Other Co-Operative Societies	142

2.16. District Rural Development Agency

The following schemes are being implemented by the DRDA with the assistant of the Central Government

- Employment Assurance Scheme (EAS)
- Indira Awaas Yojana (IAY)
- Jawahar Gram Samridhi Yojana (JGSY)
- Member of Parliament - Local Areas' Development Scheme (MPLADS)
- Pradhan Mantri Gram Sadak Yojana (PMGSY)
- Prime Minister's Gram Yojana - Housing (PMGY)
- Restructured Central Rural Sanitation Programme (RCRSP)
- SGSY - Operation Black Board (OBB)
- Swarnajayanti Gram Samridhi Yojana (SGSY)
- Sampoorna Gramin Rozgar Yojna - ST1
- Sampoorna Gramin Rozgar Yojna - ST2
- Bio-Gas
- Chula

2.17. The State Government

- Anna Marumalarchi Thittam
- Namakku Naame Thittam
- Member of Legislative Assembly - Constituency Development Scheme (MLACDS)
- Rural Sanitation
- VAO Office
- Village Self Sufficiency Scheme
- Small Saving Incentive Welcome to Thiruvallur DRDA

2.18. Animal Husbandry and Fisheries Activities in Thiruvallur District

Animal husbandry is a subsidiary occupation of the district due to the presence of a number of small and marginal farmers. Presently, there are four Government Schemes in operation *viz.*, Backyard poultry farm, Buffalo Rearing Scheme, Special Animal Husbandry Programme and special campaign to protect animals. There are 5 Veterinary Hospitals, 24 Veterinary Dispensaries, 77 sub-centres and 14 mobile veterinary units catering to the needs of the farming community.

The total coastal area of the district is about 49803 ha and has a coast line of 80 kms for marine fisheries. Prawn/shrimp culture is famous at the coast line of Gummidipoondi and Minjur. The total fish production is to the tune of 11372 tonnes.

Fig.4. Location of Thiruvallur District on the Map of Tamil Nadu

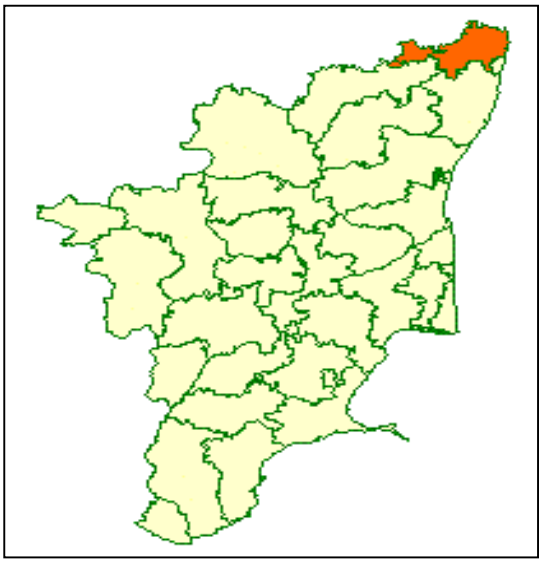
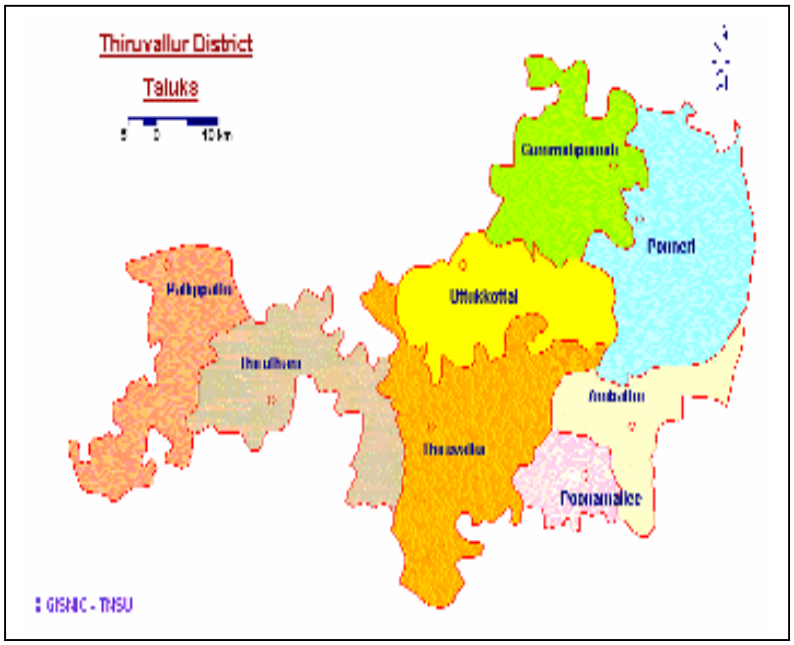


Fig.5. Blocks in Thiruvallur District

Fig.6. Taluks in Thiruvallur District



CHAPTER - III
SWOT ANALYSIS OF THE DISTRICT

3.1. Strength

Thiruvallur is a coastal district which is adjacent to Chennai city. It receives an average annual rainfall of 1152 m spread over 9 to 10 months of the year in three seasons (Summer, Southwest Monsoon and North East Monsoon).

The ground water level is also good. All the blocks canocender white or gray area of classification in groundwater availability and there is no black area. Most of the soils are suitable for cultivation of various crops. There is only a limited area under problem soils.

Because of the availability of rainfall in three seasons and good groundwater potentials farmers are able to cultivate 2 to 3 crops in a year.

As the District in situated near Chennai city there is a good market potential for paddy in Red hills market and Koyambedu market for vegetables. Almost all the villages are connected by good roads to the major district roads and national high ways which facilitate a rapid movement of agricultural produce and to markets in the Chennai city.

As the district is near Chennai city, the industrialists and other people having surplus money are purchasing fallow lands and investing a lot of money for the development of land for cultivation of annual crops and perennial crops like mango.

3.2. Weakness - Threat

Even though proximity of Chennai city is strength by providing a good market potential for the agricultural produces, in other way it is a major threat and weakness for the development of Agriculture in Thiruvallur District. Due to rapid industrialization around Chennai city the land value has increased manifold. An acre of land which was sold for Rs.1 or 2 lakhs a few years is back is selling for Rs.20 to 25 lakhs. So farmers feel it is profitable to sell the lands instead of cultivating crops.

Moreover the proximity to Chennai city has encouraged the real-estate developers to purchase large tracts of land for the construction of residential buildings. Hence the land available for Agriculture is shrinking day by day.

A large quantity of good quality ground water is pumped and transported to Chennai city daily by many private authorized and unauthorized agencies. So the groundwater potential is being depleted in the villages near Chennai city.

As most of the industries are concentrated around Chennai the requirement of labour force is increasing day by day. Labourers find it more remunerative working in industry rather than in agricultural operations. So there is an acute scarcity of labour to carryout agricultural operations in time.

3.3. Opportunities

- The Government should take earnest steps to stop the conversion of agricultural land to non agricultural purpose.
- Pumping and selling of groundwater should be stopped
- Rainwater harvesting, conservation and recharging of groundwater should be given top priority.
- Use of labour saving implements should be encouraged by giving 50% subsidy for purchase of labour saving implements like rice transplanter, combine harvester.

Composite Index of Agricultural Development of Thiruvallur District

Agricultural Development of a district is a comprehensive multidimensional process involving large number of related indicators. Hence, it can be well represented by composite indices which are used as yardsticks not only to gauge the development of each district but also to compare its performance in relation to other districts. These indices help to classify the sub-regions based on a set of large multivariate data. The information contained in the large set is transformed into a small set of indices which

would provide a convenient method for classification. There are many methods of classification based on multivariate data. Among them, one method which is statistically sound is that developed by Iyengar and Sudarshan.(1982). This method is simple and easy to apply and it helps to classify the districts into various stages of development, viz, 'highly developed', 'developed', 'developing', 'backward' and 'very backward'. In this method for each district a 'composite index' is constructed. The index lies between 0 and 1 with 1 representing 100% development and 0 representing no development at all.

It is assumed that there are 'n' districts and 'm' development indicators and that X_{id} is the observed value of i^{th} development indicator for the d^{th} district (i = 1,2,3 … m, d = 1,2,3…n). First this value of development indicators for each district is to be standardized. When the observed values are related positively to the development (as in the case of cropping intensity), the standardization is achieved by employing the formula

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

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

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

Obviously the standardized indices lie between 0 and 1. These indices are then used to determine the weights of individual variable and then they are subjected to further statistical analysis by fitting suitable probability distribution to determine the cut-off points for classification of the districts into five categories as mentioned above. The detailed methodology can be found in Iyengar and Sudarshan (1982).

The data base for the current study on Thiruvallur district is taken from various government publications like Season and Crops Report and Economic Appraisal of Tamil Nadu for the 4 periods 1990-91, 1995-96, 2000-01 and 2005-06. In all, 25 indicators of agricultural development as given in Table 1 were used for estimating the composite index of development for the district. The 25 indicators were grouped into 6 different 'components': i) Crop-Area-Variables (10) ii) Irrigation (7) iii) Livestock (3) iv) Fisheries (1) v) Fertilizer (3) and vi) Cultivators and Labourers (2).

The analysis showed that Thiruvallur district which was classified as 'highly developed' in agricultural development during 90-91 and 95-96 became 'developed' in agriculture during 2000-01 and during the recent period it was classified as 'highly developed'. In terms of overall agricultural development its rank among the 29 districts of Tamil Nadu varied from 3 to 7 during the 1990-91 to 2005-06. As far as the individual components of agricultural development are concerned, its ranks in the above periods are summarized in the following Table 2. The table shows that except in cultivators and labourers, in all other components its performance in the period of study is good. In cultivators and labourers occupied between 23rd and 28th ranks.

Table 18. Selected Indicators of Agricultural Development for Thiruvallur District

Component	Indicators	No. of Indicators
Crop-Area-Variables	Cropping Intensity	10
	% of Gross Cropped Area to Total geographical area	
	% Share of foodgrains to Gross Cropped Area	
	% Share of foodcrops to Gross Cropped Area	
	% Share of non foodcrops to Gross Cropped Area	
	% Share of cultivable waste to total geographical area	
	% Area under High Yielding Variety-PADDY	
	% Area under High Yielding Variety-CHOLAM	
	% Area under High Yielding Variety-CUMBU	
	% Area under High Yielding Variety-RAGI	
Irrigation	Irrigation Intensity	7
	% of Gross Irrigated Area to Gross Cropped Area	
	% of Net Irrigated Area to net area sown	
	% Area under Canal Irrigation to Gross Irrigated Area	
	% Area under Tank Irrigation to Gross Irrigated Area	
	% Area under Well Irrigation to Gross Irrigated Area	
	% Area under other sources Irrigation to Gross Irrigated Area	
Livestock	Milk production (lakh tons)	2
	Egg production (lakhs)	
Fisheries	Inland + Marine fish production in tons	1
Fertilizer	Consumption of Nitrogen per hectare of Gross Cropped Area (tonnes)	3
	Consumption of Phosphorus per hectare of Gross Cropped Area (tonnes)	
	Consumption of Potassium per hectare of Gross Cropped Area (tonnes)	
Cultivators-Labourers	% of Cultivators to total population	2
	% of Agri.labourers to total workers	
	TOTAL	25

Table 19. Rank of Thiruvallur District in terms of agricultural development among other Districts of Tamil Nadu during 1990-91 to 2005-06

Component of Composite Index		Crop-Area-Variables	Irrigation	Livestock	Fisheries	Fertilizer	Cultivators-Labourers	Overall
Period	1990-91	4	2	11	-	-	23	3
	1995-96	2	2	13	10	8	26	6
	2000-01	7	2	13	10	7	26	7
	2005-06	1	1	17	8	10	28	3

CHAPTER - IV

DEVELOPMENT OF AGRICULTURAL SECTOR

Table 20. Coconut Development Board Assisted Scheme-2007-2008 –March 2008 (Ongoing scheme)

Sl. No	Details	BE-RE Target 07-08		Achievement	
		Physical	Financial	Physical	Financial
1	Area Expansion (ha.)	6	--	6	--
2	Maintenance of disease affected trees (Nos.)	300	75000	300	0.75
3	Laying out of Demonstration plots (Nos.)(New and Maintenance) (15 + 20)	5 20	87500 350000	3 20	0.52 350000
4	Organic Manure pits (Nos.)	1	20000	1	20000
5.	Rhinocerous redpalm weevil	--	--	--	--
	Total		**532500**		**532500**

Table 21. ISOPOM - Pulses 2007-08 (Ongoing Scheme)

Sl. No.	Components	Annual Target			Physical (Achmt)			Financial (Achmt.)			Beneficiaries		
		Phy.	Fin	UA	UC	Total	UA	UC	Total	Gen.	SCP	Women	Total
1	Purchase of B seeds (Qtl)	2.100	0.105		0.1	0.1	0.9499	--	0.9499				
2	Procurement of F seeds (Qtl)	26.190	0.131	0.394		0.394							
3	Production of C seeds (Qtl)	327.400	1.637	77	11.00	88	0.774	0.114	0.888	17	4	3	24
4	Distribution of C Seeds (Qtl)	327.400	2.619	190	110	300	1.77	0.73	2.5	1200	280	390	1870
5	Campact Block Demn. (Nos.)	71	1.420	53	18	71	1.06	0.36	1.42	140	40	35	215
6	IPM Demonstration	4	0.493	3	1	4	0.37	0.123	0.493	70	30	20	120
7	Gypsum distribtion Ha.			0	0								
8	Bio-Fertiliser distribution Ha.	882.000	0.441	662	220	882	0.31	0.126	0.43	560	190	90	840
9	Bio Pesticides Distribution Ha.	34.000	0.085	26	8	34	0.0273	0.0262	0.0535	24	5	3	
10	Distribution of Pipes (Nos.)	9	1.350	5	2	7	0.750	0.300	135	5	2		7
11	Distribution of NP Virus (Ha.)	17	0.0425	12	5	17	0.0228	0.007	0.0298	12	2	3	17
12	Distribution of PP chemicals (Ha.)												

Table 21 Contd…..

Sl. No.	Components	Annual Target			Physical (Achmt)			Financial (Achmt.)			Beneficiaries		
		Phy.	Fin	UA	UC	Total	UA	UC	Total	Gen.	SCP	Women	Total
13	Distribution of weedicides (Ha.)												
14	Distribution of PP equipments (Nos.)	85	0.68	60	25	85	0.247	0.300	0.547				
15	Distribution of sprinklers Nos.												
16	Farmers Interest Groups (Nos.)												
17	Village campaigns (Nos.)												
18	Staff and other contingencies (45 POL)		0.25	0.121	0.116	0.237	0.12	0.116	0.237				
19	Farmers Training (Nos.)	4	0.6	3	1	4	0.45	0.15	0.6	68	36	46	150
20	DAP Sprayering No.	530	0.53	397	123	530	0.369	0.119	0.488	330	80	40	450
21	Micro Nutrient Sprayer No.	1250	0.875				0.6	0.22	0.82	231	29	20	280
	Total		**11.008**				**7.695**	**2.575**	**10.8**	**2662**	**660**	**651**	**4003**

Table 22. ISOPOM - Oilseeds 2007-08 (Ongoing schemes)

Sl. No.	Components	Annual Target			Physical (Achmt)			Financial (Achmt.)			Beneficiaries		
		Phy.	Fin	UB	UH	Total	UB	UH	Total	Gen.	SCP	Women	Total
1	Purchase of B seeds (Qtl)	10	0.450	40		40	0.090	0.130	0.22				2
2	Procurement of F seeds (Qtl)	260	1.300				0.080	0.000	0.08	1			1
3	Procurement of C seeds (Qtl)	1300	6.500	359	271.00	630	3.600	2.710	6.31	46	12	4	1062
4	Distribution of C Seeds (Qtl)	1300	10.400	317	116	433	3.8	1.400	5.2	268	49	51	268
5	Distribution of Pipes (Nos.)	25	3.750	18	7	25	2.700	1.050	3.75	18	5	2	25
6	Block Demonstration Polytin mulch	30	2.400	22	8	30	1.840	0.560	2.4	15	8	7	30
7	CBD (Nos.)	48	1.920	36	12	48	1.400	0.480	1.920	29	11	8	48
8	Distribution of Gypsum Ha.	1300	6.500	120	40	160	5.850	1.830	7.68	600	180	90	870
9	Distribution of Bio Pesticides Ha.	250	0.625	400	100	500	0.490	0.150	0.64	250	75	30	325
10	Distribution of Bio-Fertiliser Ha.	5000	2.500	4000	1000	4000		0.490	2.45	1400	320	280	2000
11	Distribution of PP equipments (Nos.)	70	0.560	0	0	70	0.336	0.107	0.443	49	14	7	70
12	Distribution of Power Sprayer (Nos.)	20	0.400	15	5	20	0.300	0.100	0.400	16	4	2	20
13	Distribution of weedicides (Ha.)	4	0.020	4	1	5	0.02	0.005	0.025	3	1		4

Table 22 Contd…

Sl. No.	Components	Annual Target			Physical (Achmt)			Financial (Achmt.)			Beneficiaries		
		Phy.	Fin	UB	UH	Total	UB	UH	Total	Gen.	SCP	Women	Total
14	Compact Block Demonstration on Gingelly	12	0.180	9	30	12	0.135	0.045	0.180	9	3	--	12
15	IPM	4	0.907	3	1	4	0.680	0.226	0.907	60	20	40	120
16	Combined Nutrient Sprayer on Ground nut	56	0.112	20	14	34	0.076	0.028	0.104	20	10	4	34
17	Village campaigns												
18	Farmers Training	8	1.200	6	2	8	0.90	0.30	1.200	200	100	100	400
19	Staff and other contingencies		7.000				4.250	--	4.250	--	--	--	--
20	Provision of Audio Visiual aids for Village Campaign		2.000				1.500	0.500	2.000				
	Total		**48.424**				**30.007**	**10.110**	**40.117**	**2984**	**812**	**625**	**4421**

Table 23. ICDP - Rice and Millet Programme 2007-08 (Ongoing scheme)

Sl.No.	Name of the Component	Target		Achievement		No. of Beneficiaries				Total	
		Physical	Finance L.Rs.	Physical	Finance L. Rs.	General		SCP		Women (7+9)	Others (8+10)
						15% Women	55% Other	10% Women	20% Others		
1	Distribution of Paddy 'C' Seeds (MT)	900	18	863.4	17.27	1210	3244	726	1865	1936	5109
2	Crop Prodn. Demn. In SRI Pattern (Nos.)	90	22.500	90	22.5	135	495	90	180	225	675
3	IPM Demn. (Nos.)	50	8.5	50	8.37	225	825	150	300	375	1125
4	P.O.L.		0.3		0.15						
	Total		**49.300**		**48.2900**	**1570**	**4564**	**966**	**2345**	**2536**	**6909**

Table 24. Seed Village Scheme 2007-08 (Ongoing scheme)

S No	Crop	Area covered (Ac)		Distributiion of seeds (MT)				Training (in Nos.) Achivement	
		Target	Achivement upto the month	Target	Total	General	SCP	Target	Total
1	Paddy	12750	12700	255	166.9	125	41.9	11	11
2	Oilseeds	400	85	32	22.97	17.2	5.74	3	3
3	Pulses	500	500	4	7.357	5.517	1.84	1	1
Total		**13650**	**13285**	**291**	**197.227**	**147.717**	**49.48**	**15**	**15**

CHAPTER - V

ALLIED SECTORS

5.1 Ongoing schemes - Horticulture

Table 25. Integrated Horticulture Development Scheme (On-going)

Sl. No	Name of the Scheme	2007-08															
		Target								Achievement							
		General		SC		ST		Total		General		SC		ST		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	**IHDS** - Integrated Horticulture Development Scheme	488	10.26	108	1.438	7	0.13	604	11.825	578.93	10.26	145.21	1.439	29.825	0.126	753.965	11.825

Sl. No	Name of the Scheme	2008-09															
		Target								Achievement							
		General		SC		ST		Total		General		SC		ST		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	**IHDS** - Integrated Horticulture Development Scheme	-Awaiting-								-Nil-							

5.2 Animal Husbandry

Baseline Information

Livestock Population (2004)

- Cattle = 261915
- Buffalo = 111877
- Sheep = 103821
- Goat = 197795
- Poultry = 654317

Livestock/ poultry population (1997-2004)

Livestock	Growth rate (%)
Cattle	1.58
Buffalo	-3.91
Sheep	-0.53
Goat	7.36
Poultry	-4.67
Drought animals	-7.18
Female exotic cross breed cattle	8.23
Female indigenous/ native pure cattle	0.69
She buffaloes	-4.68

Productivity (1997-2004)

Live stock	Growth rate (%)
Indigenous cow	2.68
Cross bred cow	0.42
Buffaloes	3.40
Desi egg	21.13
Improved egg	19.41

5.3 SWOC Analysis

Strength

- Increased buffalo productivity in spite of declining trend in population
- Steady increase in cattle population
- Locational advantage of a part of Thiruvallur district nearer to Chennai city provides good marketing opportunities.
- Existence of one Govt. milk chilling unit at Kakkalur
- Increasing trend in goat population and meat production
- 35 Veterinary Dispensaries 5 Veterinary Hospitals and 6 other veterinary centers. 65 sub centers are functioning in Thiruvallur District.

Weakness

- Increased cost of land because of urbanization (creates pressure on Agriculture land)
- The Aavin is procuring milk in 30 % of the area of the district only.
- Inadequate green fodder availability (88%)
- Milk procuring cost by private vendors is only Rs. 7 for cow milk
- Inadequate grazing resources for small ruminants
- Decreasing trend in buffalo, sheep and poultry population.
- There is a shortage of 43 Veterinary institutions as per the norms.

Opportunities

- There is a need to improve the genetics of the animal, clean milk production technique, optimum feed formulation to achieve market driven milk production and distribution. Then only we will be able to market more liquid milk and give more returns to the farmers.

Challenges

- The problem of adulteration of liquid milk has created serious issue.
- At the international level there is a possibility of insisting the use of milking machine as an essential part of milk handling which if enforced may lead to the isolation of Indian milk products in the international market
- Therefore the challenge before us is to formulate suitable strategies to safeguard the interest of small farmers having one or two cattle and bring them to the forefront.

5.4 Fisheries Sector

Introduction

Thiruvallur district has an area of 3,422 sq. km. with a population of 27,38,866 persons. The district is mainly agrarian with a total rain fall of 684.1 mm per annum. Paddy, groundnut, cultivation are the major main crops in this district. Thiruvallur district has both marine and inland resources. In the District the coastal length is 27.9 K.m. the total marine fisherfolk population is 53000, in which 17031 are active fishermen and 13816 are active fisherwomen. The inland fisherfolk population is 8400, in which 2136 are men. The total brackish water areas including pulicat lake and B' Canal of 28200 ha.

5.4.1 Baseline Information

- Coastal length - 27.9 km
- lnland fish production - 13590.81 tonnes.
- Marine fish production - - 6675 tonnes
- Inland fishing villages – 20
- Marine Fishing Villages – 58
- Inland Cooperative societies - Fishermen 20 & Fisherwomen 1
- Marine Cooperative societies - Fishermen 102 & Fisherwomen 71
- Mechanised boats – Nil ; Motorised FRP boats – 1999 ; Traditional crafts – 879
- 28200 ha brackish water resources available (Pulicat and B. Canal areas are included)
- Present seed production (Government & Private) - 50 lakhs; Demand – 55 lakhs
- There is a scope for Increasing Inland fish production
- Existence of fisheries training and research centre of TANUVAS
- Fish whole sale markets – 3 Nos. – koyambedu, Maduravoiyal & Thiruvallur
- Great scope for development of Inland fish farming and brackish water shrimp farming
- In this district 133 private shrimp farms with a water spread area of 414.68 ha

5.4.2 Gaps Identified

- Lack of proper infrastructure facilities for seed rearing, fish landing and marketing
- Fish culture in natural small water system is being practiced by stock &harvest system and not by scientific culture method.
- Scope for brackish water farming available; But shrimp culture practiced in 414.62 ha. only due to disease problems.

5 4.3 Pulicat Fishery

- Over exploitation leading to depletion of fishery resources.
- Competition in fishing between TN & AP fishermen
- Fish recruitment - affected due to silting & pollution
- No proper infrastructure facilities for processing fish & fishery products

5.4.4 Marine Fishery

- No proper Harbour and Beaching facilities available for crafts operated from villages which lie on the southern belt of the district
- Sea erosion predominant affecting beaching of crafts
- Many industrial units located alongside the coast causing pollution

5.4.5 Intervention Required Areas

- Baseline survey & plan for development of Pulicat lake fishery
- Installation of FAD & sea ranching for stock enhancement
- Expansion of fish culture in hitherto unutilised water bodies
- Modernization of fish markets at Pulicat
- Mechanization & Modernization of fishing crafts to increase fishing effort & landings
- Infrastructure development to attain self sufficiency in seed production through private & Government.
- Establishment of modern fish stall
- Capacity building of Pulicat lake fisherfolk for diversified activities

5.5 Agricultural Engineering

Table 26.Ongoing Schemes

Sl. No.	Name of scheme	Annual target 2007-08		Target upto March- 08		Achievment upto March -08		%	Remarks
		Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)		
1	**Tractor Hiring Scheme**								
	a)THS								
	1)Bulldozer	4050 hrs.	18.41	4050 hrs.	18.41	3677 hrs.	16.71	**91**	
	2)Tractor	6100 hrs.	8.05	6100 hrs.	8.05	5501 hrs.	7.26	**90**	
	3)Combined Harvestor	90 hrs.	1.02	90 hrs.	1.02	60 hrs.	0.47	**67**	
	b) Minor Irrigation Scheme								
	1)Percussion Drill	1400 days.	4.20	1400 days.	4.20	1332 days.	4.00	**95**	
	2)HB Sets	3240 meters	0.97	3240 meters	0.97	3409 metres	1.02	**105**	
2	**Rainwater Harvesting and Run of Management-SCS**								
	1)Minor CD	20		20		20	4.89		
	2)Medium CD	4		4		10	4.95		
	3)Village pond	15		15		17	25.34		
	4)Perculation Pond	3	61.24	3	61.24	3	8.04	**100**	
	5)Farm Pond	47		47		47	15.61		
	6)Rejuvenation of wells	19		19		19	2.30		
	Total	**108**		**108**		**116**	**61.13**		
3	**Rainwater Harvesting Structure -RIDF NABARD**								
	1)Minor CD	42		42		42	4.03		
	2)Medium CD	27		27		36	17.84		
	3)Major CD	16		16		16	11.84		
	4)Perculation Pond	17	75.00	17	75.00	17	33.31	**100**	
	5)Farm Pond	13		13		13	4.72		
	6)Rejuvenation of wells	36		36		36	3.33		
	Total	**151**		**151**		**160**	**75.07**		

Table 26 Contd…

Sl. No.	Name of scheme	Annual target 2007-08		Target upto March- 08		Achievment upto March -08		%	Remarks
		Phy	Fin (lakhs)	Phy	Fin (lakhs)	Phy	Fin (lakhs)		
4	**Replacement of Old Pumpsets**								
	1)Others	276	14.96	276	14.96	234	14.91		
	2)SC/ST	15	0.98	15	0.98	14	0.98	**100**	
	Total	**291**	**15.94**	**291**	**15.94**	**248**	**15.89**		
5	**Agricultural Mechanisation**								
	1)Tractor	92		92		99	29.70		
	2)Power tiller	20		20		24	7.06		
	3)Rotavator	5	39.68	5	39.68	10	1.98	**100**	
	4)Implements	11		11		8	0.92		
	Total	**128**		**128**		**141**	**39.66**		
6	**Micro Irrigation**								
	1)Mango	438.620	43.32	438.620	43.32	40.100	5.20		
	2)Banana	219.310	66.18	219.310	66.18	-	-		
	3)Guava	54.830	9.09	54.830	9.09	4.875	0.51		
	4)Cashew	54.830	5.99	54.830	5.99	-	-		
	5)Amla	-	-	-	-	2.985	0.30	**5.3**	
	6)Sweetlime	-	-	-	-	4.865	0.59		
	7)Other Tree Crops(Dates)	-	-	-	-	-	-		
	Total	**767.590**	**124.58**	**767.590**	**124.58**	**52.825**	**6.60**		
7	**IWDP**	**-**	**129.67**	**-**	**129.67**	**-**	**38.75**	**30**	
8	**NAWDPRA**	**-**	**69.25**	**-**	**69.25**	**-**	**52.79**	**76**	
9	**2 Acre Waste land Scheme**	**2428.52**	**-**	**-**	**-**	**2198.52**	**52.69**	**91**	
	Total		**548.01**				**182.11**		

5.6. Agricultural Credit

5.6.1. Credit Disbursement

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

I. Policy Innovations of Government of India:

1. Agricultural Debt Waiver (For Small Farmers / Marginal Farmers) and Debt Relief (for other Farmers) Scheme covering direct Agricultural Credit.
2. Short Term Crop Loans continued to be disbursed at seven per cent with interest subvention.
3. National Agricultural Insurance Scheme (NAIS) to continue in the present form for Kharif and Rabi 2008-09.
4. Adoption of concept of Total Financial Inclusion (TFI) and meeting the entire credit requirement of Self-Help-Groups.
5. Implementation of Rain-fed Area Development Programme with an allocation of Rs.348 crores with priority to areas not benefited by Watershed Development Schemes.
6. Central Banks and Rural Regional Banks (RRBs) to add 250 accounts every year in Rural and Semi-urban branches.

II. Policy initiatives of Reserve Bank of India:

1. Guidelines on Priority Sector Lending (PSL) revised enlarging its scope.
2. Limits for loans under DRI scheme raised from Rs.6500 to Rs.15000 and that for housing loan under scheme from Rs.5000 to 20000.

3. CBs/RRBs to introduce on a pilot basis in one district, a simplified cyclical credit product whereby the farmers can use core component of 20 per cent of credit limit throughout the year, provided interest is serviced.
4. Banks are allowed to utilize the services of retired bank / Government employees and ex-servicemen as business correspondents.

III. Policy and Development Initiatives of NABARD:

1. NABARD to play an active and supportive role in the implementation of 'Rural Business Hub' Scheme of Ministry of Panchayat Raj envisaging Public-Private-Panchayat Partnership to develop holistic and integrated partnership between decentralized rural production units and larger corporate entities.
2. A new find "Farmers' Technology Transfer Fund" created to support programmes, workshops / seminars on technology transfer, marketing of agriculture produce and imparting training on new technologies / agriculture practices
3. NABARD in collaboration with Department of Posts, Government of India, to set up showcases in 100 post offices across the country to showcase the products of SHGs and rural artisans.
4. Krishak Saathi Scheme introduced to provide refinance to banks to provide loans to farmers to free themselves from the clutches of money lenders.
5. RIDF loan at 90 per cent of the project cost allowed for roads and social sector projects in Hill States; also, higher mobilsation advance at 30 per cent of total RIDF loans allowed for these states.

IV. Policy Initiatives of Government of Tamil Nadu:

1. Rs.1150 crores allocated in 2008-09 for compensating co-op. banks for waiver of crop loans.
2. It is proposed to disburse new crop loans to the tune of Rs.1,500 crores during 2008-09.

3. The rate of interest on crop loan reduced from five per cent to four per cent for prompt repayments in 2008-09.
4. Rs.40 crores to provide 50 per cent Insurance Premium for 25 lakhs farmers towards crop insurance.
5. SRI cultivation of paddy to be extended to all districts at an estimated cost of Rs.64 crores.
6. 25 per cent subsidy to farmers for purchasing farm machinery under NADP.
7. Afforestation Progrmme in 51,500 hectares at a cost of Rs.113 crores. 1,000 check dams and 300 percolation ponds to be constructed throughout the State. Rupees three crores provided for forest roads. Rs.10 crores allocated for planting one crore saplings in private lands.
8. Tamil Nadu Co-operative Milk Producers Federation to provide 10,000 crossbred milch animals to Women Self Help Groups in 200 villages covering 5000 women. This scheme will be implemented at a cost of Rs.22 crores for a period of two years.
9. IAMWARD Project extended to another 16 sub-basins.
10. Construction of 48,500 checkdams and perculation tanks in 232 over exploited blocks for conserving ground water at a cost of Rs.550 crores.
11. State Government to open 4 SEZs in Tirunelveli, Tiruvannamalai, Erode and Vellore Districts.
12. A sum of Rs.504 crores is allocated under “Anaithu Grama Anna Marumalarchi Scheme” for undertaking basic infrastructure related works in 2521 village panchayats.
13. Rs.50 crores provided in 2008-09 for 1625 community developmental works under ‘Namakku Naame Thittam’.

Activity wise credit disbursement and projection under agricultural and allied sectors in Thiruvallur district is furnished in Table 27.

Table 27. Activity Wise Credit Disbursement and Projections under Agricultural and Allied Sectors in Thiruvallur District

(Rs. lakh)

Sectors	2008-09	2009-10	2010-11	2011-12
Crop loan	25878.00	27171.90	28530.50	29957.02
Term loan		0.00	0.00	0.00
Micro Irrigation	1836.00	1927.80	2024.19	2125.40
Land Development	1166.00	1224.30	1285.52	1349.79
Farm Mechanization	5011.00	5261.55	5524.63	5800.86
Plantation & Horticulture	1404.00	1474.20	1547.91	1625.31
Forestry & Waste land Development	123.00	129.15	135.61	142.39
Dairy Development	1391.00	1460.55	1533.58	1610.26
Poultry	110.00	115.50	121.28	127.34
Sheep/Goat/Piggery	227.00	238.35	250.27	262.78
Fisheries	95.00	99.75	104.74	109.97
Storage Godown & Market yards	315.00	330.75	347.29	364.65
Bio-gas	0.00	0.00	0.00	0.00
Sericulture	0.00	0.00	0.00	0.00
Others	655.00	687.75	722.14	758.24
Sub total - Term loan	12333.00	12949.65	13597.16	14276.99
Total Agriculture Credit (1+2)	38211.00	40121.55	42127.66	44234.01
Non Farm sector	17188.00	18047.40	18949.77	19897.26
Other Priority Sector	15835.00	16626.75	17458.09	18330.99
Grand Total	**71234.00**	**74795.70**	**78535.52**	**82462.26**

From the table it could be seen the projected flow of credit disbursement for agriculture and allied sectors during 2009-10, 2010-11 2011-2012 would be Rs. 74795.70 Rs. 78535.52 and Rs. 82462.26 lakhs respectively. The total flow of agriculture credit in terms of crop loan and term loan in 2011-12 would be Rs. 44234.01 lakhs. The flow of credit for non-farm sector and other priorty sectors in 2011-12 would be Rs. 19897.26 and Rs. 18330.99 lakhs respectively.

CHAPTER - VI

DISTRICT PLAN

6.1. Agriculture

I. Rice (Irrigated)

Introduction

In Thiruvallur District Rice is the major crop cultivated in an area of 90000 hectare in three seasons ie. Sornavari, Samba and Navarai. At present the productivity of rice is 4.200 tonnes per hectare. To achieve 4 per cent annual growth in productivity the following components and activities have been proposed under NADP.

A. Soil Health

Soil is the first and foremost component deciding the crop growth and ultimately the yield of each crop. Any deficiencies of nutrients or soil problems affect the crop growth and result in reduced yield even if other inputs are applied in optimum levels. Hence to find out the problems like soil alkalinity, salinity and acidity and analyse the quantum of availability of various macro and micronutrients. Soil sample analysis and issue of soil health card has been included in the programme.

B. Distribution of Soil Health Card

A sum of Rs. 1.4 lakhs per year has been proposed for issue of 2800 numbers of health cards at the rate of Rs.50/- per health card.

C. Distribution of Vermi Compost

Due to intensive cropping and application of chemical fertilizers without organic manures the organic matter content of the soils is very low in most of the areas. Moreover due to decrease in cattle population in rural areas the availability of organic manure is very low. Without organic matter content in the soil the microbial activity will be very limited which will result in lesser intake of plant nutrients which ultimately leads to lower crop yield.

Vermi compost is a very good alternative to farmyard manure having comparatively more plant nutrients and aminoacids. Hence an amount of Rs. 337500 has been proposed in the scheme for distribution of vermi compost for 100 hectares at 90% subsidy of Rs. 3375 per hectare.

D. Distribution of Green Manure Seeds

To encourage the application of Green Manure to rice crop a sum of Rs. 437500 per year has been proposed for distribution of green manure seeds for 700 hectares at 50% subsidy of Rs. 625/ha.

E. Seed

Quality seed is vital input which alone determines the better crop growth and yield. Due to strange marketing behaviour of farmers most of them sell the produce in the thrashing floor itself and they don't process and store the seeds for next crop. Majority of the farmers depend on Government seed distribution outlets or private seed dealers for their seed requirement. In these circumstances it is the foremost duty of the Government to make available the quality seeds at appropriate time and at affordable price. Hence the following incentives have been proposed in this component.

1. Production Incentive for F Seed

To encourage the foundation seed producing farmers a sum of Rs. 110000/- per year has been proposed for giving production incentive for foundation seeds of 22 tonnes at Rs. 5000/tonnes as subsidy.

2. Production Incentive for Certified Seeds

A sum of Rs. 44,00,000 per year has been proposed as production incentive for the certified seed producer for 1100 of certified seeds at Rs. 4000/Metric tonnes.

To give incentive to the seedfarm growers a sum of Rs. 1.10 lakhs per year has been proposed for distribution of 22 tonnes of foundation seeds at a subsidy of Rs.5000/Metric tones.

For the distribution of certified seeds to the farmers a sum of Rs. 52.50 per year lakhs has been proposed for a quantity of 1050 tonnes of seeds at a subsidy of Rs. 5000/tonnes.

F. Integrated Nutrient Management

Application of major nutrients like nitrogent, phosphorous and potash alone can not give desired crop yield. Plants also need micronutrients for optimum growth and better yield. Moreover micronutrients act as catalyst in making available the major nutrients to crop plants. Most of our soils are deficient in micronutrients and that is one of the reason for getting lower yield. So to encourage the farmers in usage of micronutrients and beneficiaries the following components have been proposed in the plan.

1. For distribution of micronutrients a sum of Rs. 1,40,000 per year has been proposed for an area of 1400 hectares at rate of Rs. 100 lakhs at 50 per cent subsidy per ha.
2. For the distribution of soil ameliorant gypsum a sum of Rs. 8.75 lakhs per year has been proposed for an area of 700 hectares at 50 per cent cost Rs. 1250/hectare.
3. To encourage the application of biofertilisers a sum of Rs.7,50,000 lakhs has been proposed for 5000 hectares with 50% subsidy at Rs. 150/hectare.

F. Integrated Pest Management

Unjudicial usage of chemical pesticides over the years has created a situation wherein most of the pests have developed resistance to pesticides. Moreover it has polluted the environment water and soil. So to have an integrated control over the pest and diseases the following components have been proposed.

1. IPM Farmers Field School to train the farmers in the techniques of Integrated Pest Management 42 Numbers of FFS have been proposed at a cost of Rs. 7,14,000/- at Rs. 17,000/- per FFS.

2. To encourage the usage of bioagents to control pest and diseases a sum of Rs. 8.00 lakhs has been proposed for 400 hectares at 50% cost Rs.400/hectare.

3. For the distribution of anticougulants and traps at 50% subsidy Rs. 2.00 lakhs has been proposed at Rs. 200/hectares to an area of 1000 hectares per year.

G. Technology Demonstration

RI Demonstration

SRI Technology is a proven technology which gives substantial increase in yield when compared to convention methods of rice cultivation. To give a wide coverage of this technology 200 Nos. of SRI demonstrations has been proposed at a cost of Rs. 7.00 lakhs at Rs. 35.00 lakhs.

H. Machinary and Equipment

Seed Processing Unit

In Thiruvallur District about 1000 tonnes of Paddy seeds are processed and distributed to the farmers. The demand for seeds is growing every year. At present 3 processing units which are 10 to 15 years old are functioning in this district which is insufficient to process the seeds. Hence to cater the over increasing the demand for seeds the following proposals have been included in the plan.

- Replacing the existing 3 processing units with new machines at Rs. 3.5 lakhs each.

- Purchasing of new processing units for R.K.Pet block and Minjur Blocks at Rs. 3.5 lakhs each.

I. Construction of Additional Seed Storage Godown

The existing seed storage facility is insufficient to store about 1000 tonnes of paddy seeds in this district. Hence to augument the storage facility of seed storage godowns with100 tonnes capacity each at a cost of Rs. 15 lakhs has been proposed.

J. Total Budget for Rice Irrigated

In total a sum of Rs. 164.19 lakhs has been proposed per year for all the components under Irrigated Rice under National Agricultural Development Programme.

II. Rice (Direct Sowing)

Introduction

In Thiruvallur District rice is cultivated as direct sown crop in about 5000 hectares for which the following components have been proposed.

A. Soil Health

Distribution of vermicompost at 90 per cent subsidy for 50 hectares at the rate of Rs. 3375/hectare for a sum of Rs. 0.16875 lakhs per year.

B. Seed

Distribution of certified paddy seeds at a subsidy of Rs.5000/tonnes for 50 tonnes proposed for a sum of Rs. 2.50 lakhs per year.

C. Integrated Nutrient Management

1. Distribution of biofertilisers at 50% subsidy or Rs. 150/ha/ for 1000 hectares of area proposed for Rs. 1.50 lakhs per year.

2. Distribution of micronutrient mixture at 50% subsidy or Rs.125/ha. for 400 hectares proposed for Rs. 0.50 lakhs per year.

D. Integrated Pest Management

1. Distribution of bio agents at 50% subsidy or Rs. 400/ha for 500 hectares proposed for Rs.2.00 lakhs per year.

2. Distribution of anticoagulants and traps at 50% subsidy or Rs.200/ha for 250 hectares proposed for Rs. 0.50 lakhs per year.

E. Machinary and Equipment

1. Distribution of Drum seeder at 75 per cent subsidy or Rs. 4125/unit for 30 units proposed for Rs. 1.2375 lakhs.

2. Distribution of Levelling Board at 50 per cent subsidy or Rs.500/unit for 10 units proposed for Rs. 5.000

F. Grand Total

For Direct sown Rice crop a sum of Rs. 8.456 lakhs has been proposed under all components.

III. Maize

Maize is a new crop to Thiruvallur District cultivated in an area of 200 hectares. To increase the area and productivity of maize crops the following components have been proposed in the NADP District Agricultural Plan

A. Soil Health

Due to intensive cultivation of crops and low application of organic manures the organic matter content of the soils are very poor. Hence to encourage the farmers in application of organic manure distribution of vermicompost at 90% subsidy has been proposed for an amount of Rs. 1,68,750 for an area of 50 hectares at Rs. 3375 per hectare.

B. Seed

As the cost of hybrid maize seed is high farmers are facing difficulty in purchase of seeds. So distribution of hybrid maize seeds for an amount of Rs. 300000 at 50% cost or Rs.75/kg for 200 hectares (20 kg / ha).

C. Irrigation

Most of farmers are irrigating the crops by open channels. Hence the loss of water is percolation and evaporation is high. So to minimize the conveyance loss laying out of PVC or HDPE pipes for a length of 800 metres at 50% cost or Rs. 15000/hectares has been proposed. For this component a sum of Rs. 750000 has been proposed for 50 hectares.

D. Integrated Nutrient Management

As Maize is an exhaustive crop which requires higher quantity of macro and micronutrients Integrated Nutrient Management is required for this crop. So to encourage the farmers in the application of micronutrients this component has been included in the plan. For this a sum of Rs.40000/- has been proposed distribution of micronutrients and zinc sulphate at 50% cost or Rs. 400/hectare.

For the distribution of biofertiliser at 50% subsidy or at Rs. 60/ha for an amount of Rs. 35000.

E. Technology Demonstration

As Maize is a new crop to this district to popularize the crop among farmers 20 Nos. laying of Technology Demonstration has been proposed. Each demonstration will be laid in an area of 5 hectares and the inputs like seeds, fertilizers, biofertilisers and plant protection bio chemicals will be distributed to the farms at the rate of Rs. 5000 per demonstration.

F. Training

1. Farmers Training

To educate the farmers regarding the cultivation practices of maize farmers training has been proposed which will be conducted at RRS Tirur for 14 batches. In each batch 50 farmers will be trained and an allowance of Rs. 150 per farmer has been proposed.

2. Officers Training

To train the officers of Agriculture Department regarding the latest techniques in cultivation of maize crop Rs. 300000 has been proposed. The training will be given to 20 batches of officers each batch having 30 officers and Rs. 300 has been provided per officer.

IV. Major Millet Cumbu (Irrigated)

Cumbu is the major millet cultivated in an area of 2500 hectares and average productivity of 1.5 tonnes/hectares. To increase the productivity of water crop the following components have been proposed in the District Agricultural Plan.

A. Soil Health

1. Distribution of 100 Nos. Soil Health Cards at a cost of Rs.5000 at the rate of Rs. 50 per card.

2. Distribution of vermicompost at 90% subsidy or Rs. 3375/- per ha. for 100 hectares for an amount of Rs.337500.

B. Seed

To encourage the farmers for use of certified seeds a sum of Rs. 20000 has been proposed for the distribution of 4 tonnes of certified seeds at 50% subsidy.

C. Irrigation

To minimize the loss of irrigation during conveyance from well to field, laying of pipeline has been proposed for an amount of Rs. 300000 at the rate of Rs.15000 subsidy/ha. for 20 units.

D. Integrated Nutrient Management

Under this component distribution of Micronutrient Mixture at 50% subsidy or Rs. 100/ha has been proposed for 100 hectares.

E. Technology Demonstration

Under this component 20 Nos. of Technology demonstration have been proposed at a cost of Rs. 40000 at the rate of Rs.2000/demonstration.

V. Groundnut (irrigated)

Introduction

Groundnut is the major oilseed crop cultivated in an area of 27000 ha. under irrigated condition. To increase the productivity of Groundnut, the following components have been proposed in the District Agricultural Plan.

A. Soil Health

1. To encourage the farmers in soil testing and application of fertilizers based on soil test recommendation, distribution of soil health cards has been proposed for an amount of Rs.5,000 to 100 farmers at Rs.50/card.

2. To distribution of vermin compost has been proposed for an amount of Rs.337500 at Rs.3375/ha.

B. Seed

To encourage Foundation and Certified seed producers, a production incentive of Rs.1000/qtl. has been proposed for 1220 qtls. of seeds for an amount of Rs.1220000/-.

A distribution of subsidy of Rs.1200/qtl. has been proposed for 1220 qtls. of seeds for Rs.1464000/-.

C. Irrigation

To minimize loss of water while conveyance, laying pipeline at 50% subsidy or Rs.15000/- per ha. has been proposed for 70 units at a cost of Rs.1050000/-

D. Integrated Nutrient Management

1. Distribution of Micro Nutrient Mixture at 50% subsidy or Rs.200/ha. at a cost of Rs.100000/- for 500 ha.

2. Distribution of Bio-fertilisers at 50% or Rs.60 per ha. for 5000 ha. at a cost of Rs.3,00,000/-.

3. Distribution of Gypsum at 50% cost or Rs.1250/ha. for 1000 ha. at a cost of Rs.1250000/-.

E) Integrated Pest Management

For effective management of pests and diseases, the following components have been proposed in the plan.

1. Integrated Pest Management, demonstration 4 Nos. at Rs.7000/demonstration at a cost of Rs.28000/-.
2. Distribution of Bio-pesticides at Rs.250/ha. at a cost of Rs.50000/-
3. Distribution of weedicides at Rs.500/ha. for 4 ha. at a cost of Rs2000/-

F) Machinery

Distribution of power operated sprayers at 50% subsidy or Rs.2600/unit for 30 Nos. at a cost of Rs.78000/-

G) Technology Demonstration

Laying of Compact Block Demonstration at Rs.4000/demn. for 48 Nos at a cost of Rs.192000/-.

H) Audio Visual Aids

Purchase of Audio Visual Aids for village campaigns at Rs.200000/unit for 2 units at a cost of Rs.400000/-.

VII. Gingelly (Irrigated)

Gingelly is cultivated in an area of 1300 ha. with an average productivity of 800 kgs./ha.

In order to increase the productivity level, the following components have been included in the District Agricultural Plan.

A) Soil Health

1. Distribution of soil health card at a cost of Rs.2500/- at Rs.50/card for 50 Nos.
2. Distribution of vermi-compost at 90% subsidy at a cost of Rs.168750/- for 50 ha.

B) Seed

1. Distribution of Production incentive for Foundation seed and Certified seed at Rs.1000/qtl. at a cost of Rs.106000/- for 106 qtls.

C) Integrated Nutrient Management

1. Distribution of Manganese sulphate at 50% subsidy or Rs.75/ha. for an amount of Rs.3750/- for 50 ha.
2. Supply of Bio-fertilisers at 50% subsidy or Rs.50/ha. for an amount of Rs.2500/- for 50 ha.
3. Distribution of gypsum at 50% subsidy or Rs.750/ha. for an amount of Rs.360000/- for 300 ha.

D) Technology Demonstration

Laying of Compact Block Demonstration at a cost of Rs.48000/- for 12 Nos. at Rs.4000/demn.

Table 28. Budget Abstract- Agriculture

Crop	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**Total**
Rice (Irrigated)	164.19	164.19	164.19	164.19	656.76
Rice (Rainfed)	8.456	8.456	8.456	8.456	33.824
Maize	16.7975	16.7975	16.7975	16.7975	67.19
Cumbu	7.1250	7.1250	7.1250	7.1250	28.5000
Groundnut (Irrigated)	64.7650	64.7650	64.7650	64.7650	259.06
Gingelly	8.187	8.187	8.187	8.187	32.748
Fodder	3.006	3.006	3.006	3.006	12.024
Seed testing laboratory	6.00	0.00	0.00	0.00	6.00
Grand Total	**278.5265**	**272.5265**	**272.5265**	**272.5265**	**1096.106**

Plan Proposal for Agriculture

Table 28 a. Crop : Rice (Irrigated)

Sl.No	Technologies Identified	Cost/ Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distribution of soil health card (Rs.50/card)	50	2800	140000	2800	140000	2800	140000	2800	140000
2	Distribution of Vermicompost (Unit: Ha) at 90%subsidy	3375	100	337500	100	337500	100	337500	100	337500
3	Distribution of Green manure seeds (Ha) at 50% subsidy	625	700	437500	700	437500	700	437500	700	437500
B. Seed (Unit in tonnes)										
1	Production incentive for 'F' seed (tonnes) at Rs.5000 / Ton	5000	22	110000	22	110000	22	110000	22	110000
2	Production incentives for 'C' seeds (tonnes) at Rs.4000/Ton.	4000	1100	44000	1100	44000	1100	44000	1100	44000
3	Distribution of 'F' seeds (tonnes) at Rs. 5000/ Ton	5000	22	110000	22	110000	22	110000	22	110000
4	Distribution of C Seeds(Rs,5000/tonnes	5000	1050	5250000	1050	5250000	1050	5250000	1050	5250000
	Total Seed Component			**9870000**		**9870000**		**9870000**		**9870000**
C.	**Integrated Nutrient Management**									
1	Distribution of MN Mixture (Unit in Ha.) at 50'% subsidy or Rs,100/ha.	100	1400	140000	1400	140000	1400	140000	1400	140000
2	Distribution of Soil ammileorants Gypsum(Unit in ha.) at 50% Cost	1250	700	875000	700	875000	700	875000	700	875000
3	Distribution of bio fertilisers (unit in Ha. at 50 % subsidy or Rs,150/ha.	150	5000	750000	5000	750000	5000	750000	5000	750000
	Total			**1765000**		**1765000**		**1765000**		**1765000**

Table 28 a. Contd…

Sl.No	Technologies Identified	Cost/ Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
D	**Integrated Pest Management**									
1	IPM (FFS School) (Unitin Nos.at Rs.17000/school)	17000	42	714000	42	714000	42	714000	42	714000
2	Distribution of bio-agents (ha at 50 % subsidy or Rs.400/ha	400	2000	800000	2000	800000	2000	800000	2000	800000
3	Distribution of anti coagulants and tra (Ha)at 50 subsidy or Rs.200/ha	200	1000	2000000	1000	2000000	1000	2000000	1000	2000000
	Total		**3042**	**1714000**	**3042**	**1714000**	**3042**	**1714000**	**3042**	**1714000**
E	**Technology Demonstration**									
1	SRI Demonstration in clusters of 10 Ha (Unit in Nos. at Rs.3500 /ha	3500.000	70	245000	70	245000	70	245000	70	245000
2	Promotional Demonstration on traditional premium table varieties(unit in Ha.)at Rs.2000/ha)	2000.000	30	60000	30	60000	30	60000	30	60000
	Total			**305000**		**305000**		**305000**		**305000**
F	**Machinary Equi pment (Unit in Nos.)**									
1	Purchase of Seed Processing Unit Agrosaw 0.500 kg/day capacity	350000	1	350000	1	350000	1	350000	1	350000
2	Construction of additional Seed storage godown 100 tonnes capacity	1500000	1	1500000	1	1500000	1	1500000	1	1500000
	Total			**1850000**		**1850000**		**1850000**		**1850000**
	Rice Irrigated Grand Total (Rs.in Lakhs)			**164.190**		**164.190**		**164.190**		**164.190**

B. Crop: Rice (Rainfed)

Sl.No.	Technologies Identified	Cost/ Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distribution of Vermicompost (Unit: Ha) at 90%subsidy	3375	50	16875	50	16875	50	16875	50	16875
	Total									
B. Seed (Unit in tonnes)										
1	Distribution of C Paddy Seeds(Rs.5000/TONNES	5000	50	250000	50	250000	50	250000	50	250000
C. Integrated Nutrient Management										
1	Distribution of bio fertilisers (unit in Ha, at 50 % subsidy or Rs.150/ha,	150	1000	150000	1000	150000	1000	150000	1000	150000
2	Distribution of MN Mixture (Unit in Ha,) at 50'% subsidy or Rs.125/ha.	125	400	50000	400	50000	400	50000	400	50000
	Total			**200000**		**200000**		**200000**		**200000**
D. Integrated Pest Management										
1	Distribution of bio-agents(ha at 50 %subsidy orRs.400/ha	400	500	200000	500	200000	500	200000	500	200000
2	Distribution of anti coagulants and tra (Ha)at 50 subsidy or Rs.200/ha	200	250	50000	250	50000	250	50000	250	50000
	Total			**2.50000**		**2.50000**		**2.50000**		**2.50000**
E. Machinary Equipment (Unit in Nos.)										
1	Distribution of Drum seederat 75% subsidy(Rs.4125/Unit(Nos.)	4125	30	123750	30	123750	30	123750	30	123750
2	Distribution of levelling Board(Nos.)50% subsidy or Rs.500/Unit	500	10	5000	10	5000	10	5000	10	5000
	Total			**1.2875**		**1.2875**		**1.2875**		**1.2875**
	Grand Total (Rs. in lakhs)			**8.456**		**8.456**		**8.456**		**8.456**

C. Crop : Maize (Irrigated)

Sl.No.	Technologies Identified	Cost / Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distribution of vermi compost at 90%n subsidy(Ha)	3375	50	168750	50	168750	50	168750	50	168750
B. Seed										
1	Distribution of Hybrid Maize seed at 75% subsidy Limited to Rs.1500/Ha for %0% area 50% limited Rs.75/kg	1500	200	300000	200	300000	200	300000	200	300000
C. Irrigation										
1	Laying out pipeline from source to ffield at 50% subsidy for 800 M.Length Rs.15000/ha	15000	50	750000	50	750000	50	750000	50	750000
D. Integrated Nutrient Management										
1	Distribution of MN Mixture(Millet) and zinc sulphate 20kg/ha(50% subsidy ltd. to Rs.400	400	100	40000	100	40000	100	40000	100	40000
2	Distribution of Bio fertiliser at 50% subsidy (Ha) at Rs.60/ha)	60	600	36000	600	36000	600	36000	600	36000
E. Technology Demonstration (Ha) at Rs.5000/ha (5ha/unit)										
1	Technologies Demonstration	5000	20	100000	20	100000	20	100000	20	100000
F. Traning										
1	Farmers training at RRS at Rs.150 /farmer/day at 50 farmers/block	7500	14	105000	14	105000	14	105000	14	105000
2	Officers Training at TNAU 30 Officers per batch/20 trg./yearat Rs.300/officer	9000	20	180000	20	180000	20	180000	20	180000
	Total (in lakhs)			**167975**		**167975**		**167975**		**167975**

D. Crop: Major Millets (Cumbu) (Irrigated)

Sl. No	Technologies Identified	Cost / Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distribution of Soil Health Cards (Unit in Nos.)	50	100	5000	100	5000	100	5000	100	5000
2	Distribution of Vermi compost at 90% subsidy (ha)	3375	100	337500	100	337500	100	337500	100	337500
B. Seed										
1	Distribution of certified seeds (TONNES)50% cost or Rs.5000/ha	5000	4	20000	4	20000	4	20000	4	20000
C. Irrigation										
1	Laying out of pipeline unit in Nos.)	15000	20	300000	20	300000	20	300000	20	300000
D. Integrated Nutrient Management										
1	Distribution of MN Mixture at 50% subsidy or Rs.100/Ha	100	100	10000	100	10000	100	10000	100	10000
2	Technology demonstration at Rs.2000/Demonstration or Ltd. to 50% Subsidy	2000	20	40000	20	40000	20	40000	20	40000
	Total (Rs. in lakhs)			**7.125**		**712500**		**712500**		**712500**

E. Crop: Groundnut (Irrigated)

Sl. No	Technologies Identified	Cost / Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distribution of Soil Health Cards (Unit in Nos.)	50	100	5000	50	100	5000	50	100	5000
2	Distribution of Vermi compost at 90% subsidy (ha)	3375	100	337500	100	337500	100	337500	100	337500
B. Seed										
1	Production Incentive for F (20 Qtls)and C 1200 Qtls. of C seeds at Rs.1000/Qtl.	1000	1220	1220000	1220	1220000	1220	1220000	1220	1220000
2	Distribution subsidy for F and C seeds at 50% subsidy or Rs.1200/qtl.	1200	1220	1464000	1220	1464000	1220	1464000	1220	1464000
C. Irrigation										
1	Laying out of pipeline unit in Nos.) 50% subsidy or Rs.15000/-	15000	70	1050000	70	1050000	70	1050000	70	1050000
D. Integrated Nutrient Management										
1	Distribution of MN Mixture at 50% subsidy or Rs.200/Ha	200	500	100000	500	100000	500	100000	500	100000
2	Distribution of Bio-fertiliser @ 50% subsidy or Rs.60/ha.	60	5000	300000	5000	300000	5000	300000	5000	300000
3	Distn. of gypsum @ 50% cost (Rs.1250/)	1250	1000	1250000	1000	1250000	1000	1250000	1000	1250000

Table 28 E. Contd….

Sl. No	Technologies Identified	Cost / Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
E. IPM										
1	IPM Demonstration at Rs.7000/ demn.(Nos.)	7000	4	28000	4	28000	4	28000	4	28000
2	Bio-pesticide distn. @ Rs.250/ha. (Ha.)	250	200	50000	200	50000	200	50000	200	50000
3	Distn. of weedicide at Rs.500/ha. (Ha.)	500	4	2000	4	2000	4	2000	4	2000
F. Machinery										
1	Distn. of power operated sprayer @ Rs.2600/unit or 50% subsidy	2600	30	78000	30	78000	30	78000	30	78000
G. Technology Demonstration										
1	CBD in Groundnut at Rs.4000/demn. (Nos.)	4000	48	192000	48	192000	48	192000	48	192000
H. Others										
1	AV Aids for villalge campaign @ Rs.2 lakhs/unit (Nos.)	200000	2	400000	2	400000	2	400000	2	400000
	Total (Rs. in lakhs)			**64.765**		**64.765**		**64.765**		**64.765**

F. Crop : Gingelly (Irrigated)

Sl. No	Technologies Identified	Cost / Unit	2008-09		2009-10		2010-11		2011-12	
			No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distn. of Soil Health cards at 50/card (Nos.)	50	50	2500	50	2500	50	2500	50	2500
2	Distn. of Vermi compost at 90% subsidy (Ha.)	3375	50	168750	50	168750	50	168750	50	168750
B. Seed										
1	Prodn. Incentive for F (6 Qtls.) and C 100 Qtls. of C seeds at Rs.1000/qtl.	1000	106	106000	106	106000	106	106000	106	106000
2	Distn. of subsidy for F and C seeds at 50% subsidy or Rs.1200/qtl.	1200	106	127200	106	127200	106	127200	106	127200
C. Integrated Nutrient Management										
1	Distn. of MN So4 at 50% subsidy or Rs.75/Ha.	75	50	3750	50	3750	50	3750	50	3750
2	Supply of bio-fertilisers at 50% subsidy or Rs.50/Ha.	50	50	2500	50	2500	50	2500	50	2500
3	Distn. of gypsum at 50% cost of transportation limited to Rs.750/Ha.	1200	300	360000	300	360000	300	360000	300	360000
D. Technology Demonstration										
1	CBD in Gingelly 12 Nos.	4000	12	48000	12	48000	12	48000	12	48000
	Total (Rs.in lakhs)			**8.187**		**8.187**		**8.187**		**8.187**

G. CROP: Fodder (1) Grass Co3 Hybrid (2) Maize African Tall (Irrigated/Rainfed)

Sl. No	Technologies Identified	Cost / Unit	2008-09		2009-10		2010-11		2011-12	
			No. of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost	No.of Unit	Total Cost
A. Soil Health (Rs.)										
1	Distn. of Soil Health cards at 50/card (Nos.)	50	50	2500	50	2500	50	2500	50	2500
2	Distn. of Vermi compost at 90% subsidy (Ha.)	3375	25	84375	25	84375	25	84375	25	84375
B. Seed										
1	Distn. of Hybrid Fodder (Co3) sets Unit (Ha.) at 75% subsidy at Rs.3000/ha.	3000	50	150000	50	150000	50	150000	50	150000
2	Distn. of fodder Maize seeds (Unit ha.) at 75 % subsidy at Rs.325/ha.	325	50	16250	50	16250	50	16250	50	16250
C. Integrated Nutrient Management										
1	Distn. of Bio-fertiliser (Unit Ha.) at 50% subsidy	150	50	7500	50	7500	50	7500	50	7500
2	Distn. of Micro Nutrient (ZnSo4) at 25 kg/ha. at 75% subsidy Rs.300/ha.	300	50	15000	50	15000	50	15000	50	15000
D. Machinery										
1	Ridge Former Distn. (Unit in Nos.) at 50% subsidy or Rs.2500/unit	2500	5	12500	5	12500	5	12500	5	12500
E. Others										
1	Land preparation charges at 250/Ha. (Unit:Ha.)	250	50	12500	50	12500	50	12500	50	12500
	Total (Rs.lakhs)			**3.0063**		**3.0063**		**3.0063**		**3.0063**

6.1.2. Seed Sector

A. Establishment of Seed Testing Laboratory at Thiruvallur

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

The main aim of seed testing is to obtain accurate and reproducible results. The seed testing laboratory is an institution in carrying out the seed production and certification program. To meet the increasing demand of farming community, seed growers, seed producers, seed dealers of Tamilnadu and for easy accessibility to the poor farming community for the purpose of enhancing Agricultural production in the district, it is necessary to have a new Seed Testing Laboratory in Thiruvallur district.

B. Need

As seeds play a vital role in enhancing the agricultural production, it is a must to check the quality of seeds before being used for sowing. The Seed testing Laboratory is the hub of Quality Control. Seed testing services are required from time to time to gain information regarding planting value of seed lots. To carry out the responsibilities effectively, it is necessary that Seed Testing Laboratory is established, manned and equipped in a manner such that whatever samples are received could be analyzed in the least possible time, so that seed quality control work and the need of the seed industry are effectively met.

C. Budget

New Seed Testing Laboratory is proposed to be established during 2008-2009 at Thiruvallur district. It is proposed to purchase the laboratory equipments at a total cost of Rs.6 lakhs.

D. Project Implementation

The Department of Seed Certification shall implement the programme. The Laboratory equipments are expected to be purchased during 2008-09.

E. Benefits

The Seed Testing laboratory is an important institution in carrying out the seed production and seed certification program. The accuracy and reproducibility in the analysis results is of paramount importance to the seed producer, processor, certification and seed law enforcement officials. At present the certified seed samples from Seed Certification wing, Official seed samples from Seed Quality Control wing and Service samples from Seed Producers, Seed dealers and farmers are being sent to Kancheepuram district for analysis. Establishment of seed testing laboratory at Thiruvallur district will help the farming community, seed dealers and producers in getting the results in time, in getting quality seeds at the sowing period and curtailing the sale of substandard seeds to the farmers well ahead of sowing so that agricultural production of the district is enhanced.

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

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

Seed the living embryo is considered as the basic and cheapest input in modern agriculture in enhancing and stabilizing the productivity. The cost of seed usually is usually negligible when compared to total production cost. Yet seed can affect the yield

potential of a crop more than any other input factor. The quality seed is one with high physical purity, germinability, vigour, genetic purity and free of pest and diseases.

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

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

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

To meet the increasing demand of farming community, seed growers, seed producers, seed dealers of the district and for easy accessibility to the poor farming community for the purpose of enhancing Agricultural production in the district, it is necessary to have a new Seed Testing Laboratory at Thiruvallur district.

F. Objectives of Seed Testing

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

G. Role of Seed Testing Laboratories in Seed Quality Control

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

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

H. Seed Quality Control Activities

Past performance depicts that intensification of regulatory activities have led to reduction in distribution of sub standard seeds in the state. Tamil Nadu stands first among other states and Union territories in implementation of the Seeds Act, 1966, The Seeds Rule 1968 and the Seed Control Order 1983.

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

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

I. Need for Establishing Seed Testing Laboratory

At present the certified seed samples from Seed Certification wing, Official seed samples from Seed Quality Control wing and Service samples from Seed Producers, Seed

dealers and farmers are being sent to Kancheepuram district for analysis. This process results in the delay of results due to transportation of the seed from the place of sampling to the laboratory. To overcome this problem and render timely supply of quality seeds to the farming community, seed producers and seed dealers it is necessary to establish Seed Testing Laboratory at Thiruvallur district.

As seeds play a vital role in enhancing the agricultural production, it is a must to check the quality of seeds before being used for sowing. The Seed testing Laboratory is the hub of Quality Control. Seed testing services are required from time to time to gain information regarding planting value of seed lots. To carry out the responsibilities effectively, it is necessary that Seed Testing Laboratory is established, manned and equipped in a manner such that whatever samples are received from the district could be analyzed in the least possible time, so that seed quality control work and the need of the seed industry are effectively met.

J. Seed Distribution

A considerable quantum of quality seeds are being distributed through licensed seed selling points. The labeled seeds distribution is dominating. Under these circumstances, ensuring the quality of the seed lots before its usage by the farming community is very much essential. The quality of such seed lots can be ensured only by testing these seed lots in the Seed Testing Laboratories for its seed standards. The seed testing of these seed lots which are not covered under the purview of Seed Certification and that are covered to some extent under seed quality control program can be ensured only by inculcating the practice of sending service samples by seed producers, seed dealers and farmers for sed testing. In the present scenario, where Seed Testing Laboratory is not available in the district the seed producers, seed dealers and farmers find it very difficult to send the seed samples for analysis. Hence, facilitating the seed producers, seed dealers and farmers by establishing Seed Testing Laboratory in the district will be of much use. Accordingly, a Seed Testing Laboratory is proposed to be established in Thiruvallur district.

In order to meet the increasing demand of quality seeds and to ensure that the farmers, dealers, producers receive the results of Seed Testing Laboratories at correct time without delay it is proposed to establish new Seed Testing Laboratory at Thiruvallur district under National Agricultural Development Programme at a financial outlay of Rs.6.00 lakhs towards provision of laboratory equipments.

K. Activities Prosposed

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

Requirement of Equipments for Establishing Seed Testing Laboratory

1. Mixing and Dividing Equipments

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

2. Moisture Testing Equipment

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

3. Weighing Equipments

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

4. Purity Analysis Equipment

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

5. Germination Equipment

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

6. Storage Equipment

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

7. General

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

8. Computers with accessories

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

L. Cost Aspects

The Seed Testing Laboratory that is to be established should have the following equipments for the purpose of analyzing seed samples for moisture, physical purity, germination and Other Distinguishable Varieties.

Table 29. Budget for establishing Seed Testing Laboratory in Thiruvallur District

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

(Rupees Six lakhs only)

Note: The above list of equipments is tentative. Based on the actual price of the equipments, the quantity and cost indicated for each of the above mentioned items may be altered and some of the equipments may be deleted so as to accommodate the purchase of equipments within the overall provision.

M. Operation and Maintenance Cost of the Running Laboratory

The staff pattern as proposed in the restructuring shall be accommodated. The recurring expenditure towards pay and allowances for the staffs proposed as per restructure proposal and the recurring expenditure towards other items shall be borne by the State Government.

1. Benefits

The Seed Testing laboratory is an important institution in carrying out the seed production and seed certification program. The accuracy and reproducibility in the analyzed results is of paramount importance to the seed producer, processor, certification and seed law enforcement officials. Establishment of seed testing laboratory at Thiruvallur district will help the farming community, seed dealers and producers in getting the results in time, in getting quality seeds at the sowing period and curtailing the sale of substandard seeds to the farmers well ahead of sowing so that agricultural production of the district is enhanced.

2. Expected Date of Completion

The equipments for Seed Testing Laboratory are expected to be purchased during 2008-09.

3. Monitoring and Evaluation

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

6.2. Horticulture

Next to Agricultral crops, horticultural crops like fruits, vegetables and flowers are gaining importance among the farmers. To promote horticultural farming and increasing the quality and productivity of these crops several projects pertaining to crop production, crop protection, and post harvest handling have been proposed with a total budget of Rs.407.07 lakh as follows.

6.2.1. Package for Plant Protection

i) Background / Problem Focused

Farmers in Thiruvallur District are using lot of pesticides to control pests of major and minor pest of Fruit, Vegetables and Flower crops. The incidence of pest was more during rainy season which reduces the production drastically in Fruit, Vegetables and Flower crops. A solution to this problem will improve the income of the farmer.

ii) Project Rationale

When package of plant protection is adopted, the losses due to pests will be reduced. The income of the farmer will also increase.

iii) Project Strategy

The potential Vegetables and Fruits growing farmers will be identified by the filed staff of Horticulture Department. To convince the farmers campaigns will be arranged at village level to realize the worthiness of the investment.

iv) Project Goal

1. To reduce the pest incidence thereby the cost of cultivation.
2. To produce good healthy seedlings.
3. To increase the profit.

v) Project Components

Adoption of package of plant protection by the farmer and the supply of inputs through tender on contract basis.

vi) Project Cost and Financing

Fifty percent of the cost will be collected from the farmer in advance and paid to the supplying agency along with the 50 percent cost availed from the fund of NADP.

vii) Implementation Chart

Identification of farmers

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Supply of plant production chemicals through tender

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Collection of 50% cost from farmer

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Inspection and Completion report

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Release of the 50% cost and farmers contribution to agency

viii) Reporting

Monthly progress reports will be sent to the nodal officer, The Director CARDS, TNAU, making copies to the head of the Department.

Abstract

The incidence of pests in Fruits and Vegetables Crops considerably reduces the yield which ultimately reduces the farmers' income. It may be overcome by adopting proper package of plant protection by availing the 50% subsidy amount from NADP.

Table 30. Budget for Package for Plant Protection

Sl. No	Year of Implementation	Physical (in number)	Full cost (Rupees in lakhs)	50% subsidy Amount (Rupees in lakhs)
1	2008-09	115	3.45	1.725
2	2009-10	115	3.45	1.725
3	2010-2011	115	3.45	1.725
4	2011-12	115	3.45	1.725
	Total	**460**	**13.80**	**6.9**

6.2.2.Banana Bunch Cover

i) Background / Problem Focused

In Thiruvallur District Banana Crops grown in an area of 1036 Ha. The mature banana bunches are not covered and kept open till they are made ready for sending to market. The fruits in the bunches get damaged by pest and diseases and also by the improper handling during the time of harvest. This leads to poor market value of the fruit and less profit to the farmer. A solution to this problem will improve the income of the farmer.

ii) Project Rationale

When the banana bunches are covered completely till the time of harvest damages will be reduced. The income of the farmer will increase in the long run.

iii) Project Strategy

Pucca banana bunch cover is very easy to handle and less in the cost potential farmer can be identified by the field staff of Horticulture Department. The farmers can be convinced by village level campaigns.

iv) Project Goal

1. To reduce damages during post harvest handling.
2. To get good quality produce.
3. To increase the profit.

v) Project Components

Supply of the material can be made on contract basis through tender.

vi) Project Cost and Financing

The supply of the material can be made on contract basis through tender. 50% of the cost will be collected from the farmer in advance and paid to the supplying agency along with the 50% cost availed from the fund of NADP.

vii) Implementation Chart

Identification of farmers

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Supply of input (Tender)

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Collection of 50% cost from farmer

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Inspection and Completion report

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Release of the 50% cost and farmers contribution to agency

viii) Reporting

Monthly progress reports will be sent to the nodal officer, The Director CARDS, TNAU, marking copies to the head of the Department.

Abstract

It is known that about 25% of loss is incured due to improper handling management in the cultivation of banana. It can be overcome by using banana bunch cover which will increases the profit of the farmer in the long run and also increase the quality of banana fruit for consumption. Farmers will be convinced of the method and 50% subsidy availed from NADP fund may be paid to the executing Agency.

Table 31. Budget for Banana Bunch Cover

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)	50% Subsidy Amount (Rupees in lakhs)
1	2008-09	56000	5.60	2.80
2	2009-10	56000	5.60	2.80
3	2010-2011	56000	5.60	2.80
4	2011-12	56000	5.60	2.80
	Total	**224000**	**22.40**	**11.20**

6.2.3. Bore Well with Casing Pipe

i) Background / Problem Focused

Most of the farmers are having open well in their fields. As the availability of water-table is decreasing daily, the farmers find it difficult to deepen their open wells to lift more water for irrigate their crops in the field. Digging of bore well with casing pipe to the farmer's field can be used for laying drip / sprinkler system for an ideal method for economic water usage.

ii) Project Rationale

When bore wells with casing pipes are laid out in the farmer field, drip / sprinkler irrigation can be given to crops which give increased yield and profit by reducing labour cost.

iii) Project Strategy

The potential farmers can be identified by the filed staff of Horticulture Department. The farmes can be convinced through village campaigns to understand the worthfulness of the investment.

iv) Project Goal

1. To reduce the cost of cultivation.
2. To make use of drip / sprinkler irrigation.
3. To utilize the available water table for a long run.

v) Project Components

Execution of the work may be on contract basis through tender.

vi) Project Cost and Financing

The execution will be made on contract basis of Agricultural Engineering Department.

vii) Implementation Chart

Identification of farmers

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Formalities prior to the excavation of bore well (with AED)

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Collection of 50% cost from farmer

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Inspection and Completion report

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Release of the 50% cost and farmers contribution to implementing Agency

viii) Reporting

Monthly report on the progress made will be sent to The Director (CARDS) and copy to the head of the Department.

Abstract

It is known that the available water-table can be used effectively by digging bore wells with casing pipes instead of open wells., which can also be used for laying drip / sprinkler system of irrigation to reduce cost of cultivation and to get more yield and profit. The farmer can be convinced to dig bore wells in their fields at 50% subsidy. The 50% cost can be collected from the farmer and the remaining 50% fund from NADP may be paid to the executing Agency.

Table 32. Budget for Borewell with Casing Pipe

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)	50% Subsidy Amount (Rupees in lakhs)
1	2008-09	2	3.0	1.5
2	2009-10	3	4.5	2.25
3	2010-2011	3	4.5	2.25
4	2011-12	3	4.5	2.25
	Total	**11**	**16.5**	**8.25**

6.2.4. Support System for Banana Crop

i) Background / Problem Focused

In most of the blocks of Thiruvallur District where Banana is grown by the farmers the availability of water is more. At the time of flowering and fruit setting the banana crops needs support to hold the weight of bunches. The farmers are using casuarina poles as the support and the cost of poles involves an additional expenditure in the cost of cultivation to the farmer without support the plantation will be affected by heavy wind and the farmers have to bear the losses due to collapse of the plants. A solution to this problem will improve the income of the farmer.

ii) Project Rationale

When casureina poles are used as support, the damage due to heavy wind is prevented. The income of the farmer will also increase.

iii) Project Strategy

Use of support for banana crop is very economical and helps to develop good size fruits in the bunches. The potential farmers will be identified by the field staff of Horticulture Department village level campaigns will be arranged to convince the farmers to realize the worthfulness of the investment.

iv) Project Goal

1. To reduce the cost of cultivation in the long urn.
2. To prevent the loss / damages due to heavy wind.
3. To increase the profit.

v) Project Components

Supply of support material will be on contract basis through tender.

vi) Project Cost and Financing

The supply of the material can be made on contract basis through tender. 50% of the cost will be collected from the farmer in advance and paid to the supplying agency along with the 50% cost availed from the fund of NADP.

vii) Implementation Chart

Identification of farmers

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Supply of materials (Tender)

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Collection of 50% cost from farmer

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Inspection and Completion report

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Release of the 50% cost and farmers contribution to implementing Agency

viii) Reporting

Monthly report on the progress made will be sent to The Director (CARDS) and copy to the head of the Department.

Abstract

It is known about 30% of the loss due to improper support management in the cultivation of Bananas by use of casaurina support will prevent the loss and increase the profit of the farmer. The farmer will be convinced of the method and support can be set in their fields at 75 per cent subsidy. Subsidy will be availed from NADP fund and remaining 50% will be collected from farmers and paid to the executing Agency.

Table 33. Budget for Support System for Banana Crop

Sl. No	Year of Implementation	Physical (in Ha)	Full cost (Rupees in lakhs)	75% Subsidy Amount (Rupees in lakhs)
1	2008-09	14	21.00	15.75
2	2009-10	18	27	20.25
3	2010-2011	18	27	20.25
4	2011-12	18	27	20.25
	Total	**68**	**102**	**76.50**

6.2.5. Banana Corm Injector

i) Background / Problem Focused

In Thiruvallur District Banana is grown in 1036 Ha by the farmers. The banana crop is affected by pest and diseases like corm weevil and rhizome rot. More plant protection measures need to be taken by the farmer which involves considerable cost in the cultivation aspect and also loss in profit. The method of application of the pp chemicals and fungicides to the corm is found to be difficult and health hazards are to be faced by the farmer. A solution to this problem will improve the income of the farmer.

ii) Project Rationale

When proper corm treatments are given the damages due to pest and disease will be prevented. If Banana corm injector is used for the application of plant protection chemicals to the banana rhizome, effective control of the pest and disease can be made and the handling of the corm injector is also easy by the farmer.

iii) Project Strategy

Maintenance of corm injector is easy. The potential farmers can be identified by the field staff of Horticulture Department. Campaigns will be arranged at village level to convince them of the worthfulness of the investment.

iv) Project Goal

1. To reduce the loss in the cost of cultivation.
2. To make the application easy.
3. To give effective protection to the crop.

v) Project Components

Supply of the material can be made on contract basis through tender.

vi) Project Cost and Financing

The supply of the material can be made on contract basis through tender. 50% of the cost will be collected from the farmer in advance and paid to the supplying agency along with the 50% cost availed from the fund of NADP.

vii) Implementation Chart

Identification of farmers

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Supply of materials (Tender)

↓

Collection of 50% cost from farmer

↓

Inspection and Completion report

↓

Release of the 50% cost and farmers contribution to implementing Agency

viii) Reporting

Monthly progress reports will be sent to the Nodal officer, The Director CARDS, TNAU, marking copies to the head of the Department.

Abstract

Direct application of pp. chemicals and fungicides to the banana crop leads losses and increase the cultivation cost to the farmer. Use of banana corm injector for application is easy and effective and also reduces the loss considerably. Farmers can be convinced of the method at 50% subsidy. Subsidy will be availed from NADP fund and remaining 50% will be collected from farmers and paid to the executing Agency.

Table 34. Budget for Banana Corm Injector

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)	50% Subsidy Amount (Rupees in lakhs)
1	2008-09	280	0.84	0.42
2	2009-10	280	0.84	0.42
3	2010-2011	280	0.84	0.42
4	2011-12	280	0.84	0.42
	Total	**1120**	**3.36**	**1.68**

6.2.6. Mango Harvester

i) Background / Problem Focused

In Thiruvallur District Mango crop is grown in an area of 10.864 ha by the farmers in 12 blocks. The Mango fruits at the time of harvest are hand picked and hence the damages caused by these manual methods to the fruits ultimately reduce the market price. A solution to this problem will improve the income of the farmer.

ii) Project Rationale

When Mango harvester is used the damages and loss can be prevented. Income of the farmer can be increased.

iii) Project Strategy

Maintenance of the Mango harvester is easy. The potential farmers will be identified by the field staff of Horticulture Department. Campaigns will be arranged at village level to convince the farmers.

iv) Project Goal

1. To reduce the damages / losses during harvesting.
2. To make the harvesting easy.
3. To increase the profit.

v) Project Components

Supply of Mango harvester on contract basis through tender.

vi) Project Cost and Financing

The supply of the material can be made on contract basis through tender. The 50% of the cost will be collected from the farmer in advance and paid to the supplying agency along with the 50% cost availed from the fund of NADP.

vii) Implementation Chart

Identification of farmers

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Supply of materials (Tender)

↓

Collection of 50% cost from farmer

↓

Inspection and Completion report

↓

Release of the 50% cost and farmers contribution to implementing Agency

viii) Reporting

Monthly progress reports will be sent to the nodal officer, The Director (CARDS), TNAU, making copies to the head of the Department.

Abstract

It is known that about 25% of the produce is lost due to improper management of harvesting in mango crop. Using mango harvester will prevent the loss and increase the profit of the farmer and also increase the availability of fruits for consumption. Farmers will be convinced of the method at 50% cost. Subsidy can be availed from NADP fund and remaining 50% will be collected from farmers and paid to the supplying Agency.

Table 35. Budget for Mango Harvester

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)	50% Subsidy Amount (Rupees in lakhs)
1	2008-09	210	1.05	0.525
2	2009-10	210	1.05	0.525
3	2010-2011	210	1.05	0.525
4	2011-12	210	1.05	0.525
	Total	**840**	**4.20**	**2.10**

6.2.7. Farm and Vegetable Waste Shredder

i) Background / Problem Focused

Vegetable cultivation and organic farming in Thiruvallur District is coming up well in 2 blocks. In the Vegetable growing areas, the procurement of the vegetables to wholesale markets and uzhavar sandhais are high and the collection and grading of the same would lead to realization more value then now realized. At present, the vegetable and farm wastes are thrown out side as such and that makes the surroundings untidy and unhealthy. The vegetable waste can be effectively utilized as cattle feeds / in vermi compost production.

ii) Project Rationale

When the vegetable waste and farm waste are used after properly processed by means of shredding, a considerable income may be obtained and the surroundings can be kept clean.

iii) Project Strategy

It is conventient method. The potential farmers will be identified by the field staff of Horticulture Department. Campaigns will be arranged at village level to convince them of the worthfulness of the investment.

iv) Project Goal

1. To reduce pollution of the eco-system
2. To increase the profit.
3. To produce palatable cattle feed.
4. To utilize as an input in vermi -compost production.

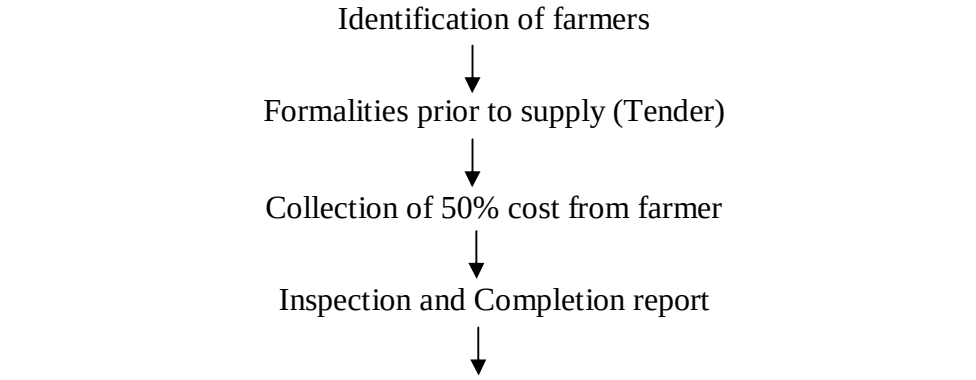
v) Project Components

Execution of the work may be on contract basis through tender.

vi) Project Cost and Financing

The execution will be made on contract basis through tender. 50% of the cost will be collected from the farmer in advance in the form of DD favouring the executing agency and will be handed over to the agency on supply of the material along with the 50% cost availed from the fund of NADP.

vii) Implementation Chart



viii) Reporting

Monthly progress reports will be sent to the nodal officer, The Director (CARDS), TNAU, marking copies to the head of the Department.

Abstract

It is known that more than 40% of the vegetable and farm waste are left as such and thrown out side without any use. The Vegetable waste and farm waste can be effectively converted and used as cattle feed and input for vermi compost production by means of vegetable shredder. It can also increase the income of the farmer. The Farmers can be convinced of the method at 50% cost. Subsidy can be availed from NADP fund and remaining 50% will be collected from farmers and paid to the executing Agency.

Table 36. Budget for Farm and Vegetable Waste Shredder

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)	50% Subsidy Amount (Rupees in lakhs)
1	2008-09	2	0.8	0.4
2	2009-10	2	0.8	0.4
3	2010-2011	2	0.8	0.4
4	2011-12	2	0.8	0.4
	Total	**8**	**3.2**	**1.6**

6.2.8. Humic Acid and E- Microbes

i) Background / Problem Focused

The area under horticulture crops is increasing in Thiruvallur District considerably every year by 20% and hence. The farmers are to take care of their field from nematodes and other soil microbes which are harmful for the crop and production. Number of plant protection sprayings and soil application are given for every crop during cultivation period to control the soil borne diseases and pests as otherwise the crop yield will decrease and the expenses on these respect is felt very high for the farmers.

ii) Project Rationale

When the crops such as Fruits, Vegetables, and Spices are grown in a disease and pest free soil media, the expenses to control the nematode pest and fungal diseases can be reduced very much and the farmer can also get better profit from the crop.

iii) Project Strategy

Use of Humic acid and E microbes to control the soil born pest and diseases is the solution.

iv) Project Goal

1. To reduce the cost of cultivation
2. To get more profit.
3. To get disease and pest free soil media.

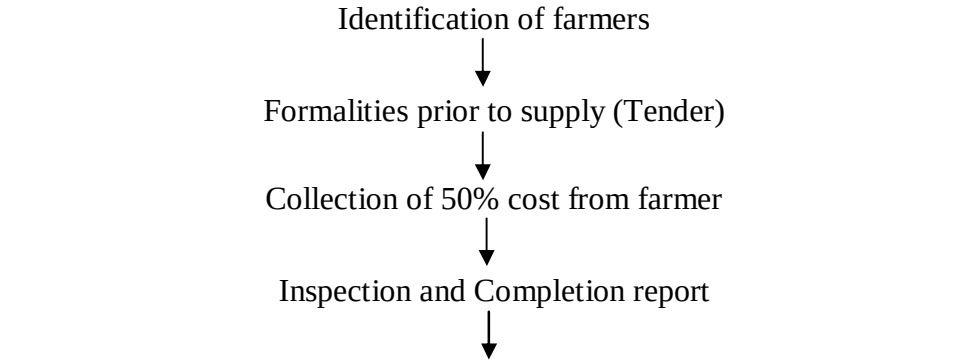
v) Project Components

Supply of Humic acid and e-microbes made on contract basis through tender.

vi) Project Cost and Financing

The execution will be made on tender basis. 50% of the cost will be collected from the farmer in advance in the form of DD favouring the executing agency and will be handed over to the agency on supply of the material along with the 50% cost availed from the fund of NADP.

vii) Implementation Chart



viii) Reporting

Monthly progress reports will be sent to the nodal officer, The Director CARDS, TNAU, marking copies to the head of the Department.

Abstract

The problem of controlling soil borne fungal and nematode infections to the crop is felt very expensive by farmers and the use of humic acid and E-microbes is the solution for getting good profit to the farmer. The Farmers can be convinced by adopting the method in their field with subsidy. The 50% amount collected from NADP fund can be paid to the implementing Agency.

Table 37. Budget for Humic Acid and E- Microbes

Sl. No	Year of Implementation	Physical (in liters)	Full cost (Rupees in lakhs)	50% Subsidy Amount (Rupees in lakhs)
1	2008-09	15	0.06	0.03
2	2009-10	15	0.06	0.03
3	2010-2011	15	0.06	0.03
4	2011-12	15	0.06	0.03
	Total	**60**	**0.24**	**0.12**

6.2.9. Inter State Exposure Visit

i) Background / Problem Focused

Farmers are growing horticulture crops in traditional method only. Very few farmers are progressive and well aware of the high-tech cultivation methods. Most of the farmers are lacking the knowledge of post harvest handling techniques and high-tech cultivation.

ii) Project Rationale

Farmers are to be taken to farmers' fields outside the Districts to get experience and to know the high-tech practices followed by the farmers in other Districts.

iii) Project Strategy

Farmers can be taken to near by district to get adequate knowledge on high-tech practices. Potential farmers can be identified by the field staff of Horticulture Department. The fund can be availed from NADP.

iv) Project Goal

1. Make farmers to get knowledge on the high-tech practices followed by progressive farmers of other District.
2. To initiate farmers to adopt the techniques to overcome field problems.
3. To reduce the losses due to adoption of old methods and to get more profit.

v) Project Components

Execution of the interstate exposure visit can be made by the District officer in coordination with block level officers.

vi) Project Cost and Financing

The cost for executing the work can be availed from NADP fund.

vii) Implementation Chart

Identification of farmers

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Formalities prior to conduct of inter state visit.

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Farmer's interstate exposure visit for 5 days

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Completion report

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Release of fund from the executing NADP to Agency.

viii) Reporting

The utilization certificate, beneficiaries list and expenditure details can be reported immediately after the completion of interstate exposure visit to The Director, CARDS, TNAU and the head of the Department.

Abstract

The old traditional method of cultivation of Horticulture crops can be changed by visiting the fields of farmers of other district. This helps to increase the profit of the farmer. The expenditure cost can be availed from NADP fund.

Table 38. Budget for Inter State Exposure Visit

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)
1	2008-09	50	2.50
2	2009-10	50	2.50
3	2010-2011	50	2.50
4	2011-12	50	2.50
	Total	**200**	**10.00**

6.2.10. Ten Ha Mega Plot for Thiruvallur District

i) Background / Problem Focused

The farmers are to be trained on all aspects of management in crop cultivation. All Horticulture crops are not grown by all farmers. Hence, knowledge for all crop cultivation is not adequate. A solution to this problem will improve the income of the farmer.

ii) Project Rationale

Demonstration plots with all managerial techniques can be useful to impart knowledge for the farmers. Thereby the income of the farmer will also increase.

iii) Project Strategy

Mega demonstration plots are highly effective to give practical knowledge to the farmers. The potential farmers can be identified by the field staff of Horticulture Department. Campaigns will be arranged at village level to convince them of the worthfulness of the investment.

iv) Project Goal

1. To get field experience on crop management techniques.
2. To give adequate knowledge to the farmers in the District.
3. To increase the profit.

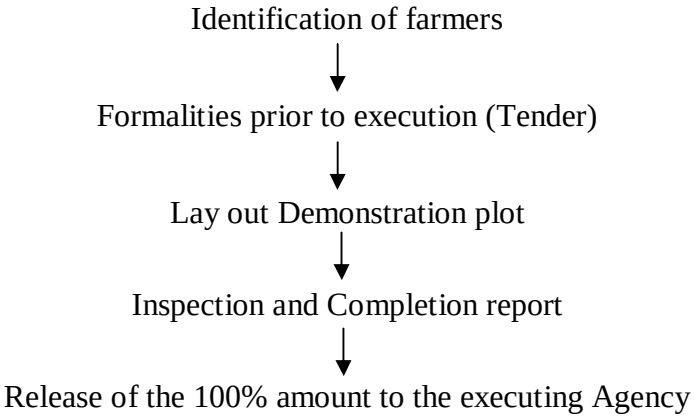
v) Project Components

Execution of the 10 ha mega Demonstration plot work can be taken up on contract basis through tender.

vi) Project Cost and Financing

The execution cost will be availed from NADP fund and paid to the executing agency.

vii) Implementation Chart



viii) Reporting

The utilization certificate, beneficiaries list and expenditure details to be sent to the Director, CARDS, TNAU, marking a copy to the head of the Department.

Abstract

The knowledge of all Horticulture crops can be improved through 10ha mega demonstration plot in the District. Farmers will be convinced to utilize their fields at 100% subsidy. Subsidy can be availed from NADP and paid to the executing Agency.

Table 39. Budget for Ten Ha Mega Plot for Thiruvallur District

Sl. No	Year of Implementation	Physical (in numbers)	Full cost (Rupees in lakhs)
1	2008-09	1	25.00
2	2009-10	--	--
3	2010-2011	1	25.00
4	2011-12	--	--
	Total	**2**	**50.00**

Table 40. Plan Proposal for Horticulture in Thiruvallur District (4 years)

Sl. No.	Component	Unit cost	Subsidy Pattern	2008-09		2009-10		2010-11		2011-12		Total		
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Subsidy
1	**Precision Farming**													
	a. Drip Component	Rs.11,200 / ha	100%	90 ha	10.08	90 ha	10.08	90 ha	10.08	90 ha	10.08	360 ha	40.32	40.32
	b. Input cost	Rs.25,000 / ha	100%	90 ha	22.50	90 ha	22.50	90 ha	22.50	90 ha	22.50	360 ha	90.0	90.00
	c. Nursery	Rs. 5,000 / ha	100%	90 ha	4.50	90 ha	4.50	90 ha	4.50	90 ha	4.50	360 ha	18.0	18.00
2	**Net House Structure**													
	a. Nursery & Vegetable production	Rs.1.00lakh/300 Sq.m	50%	600 sq.m	2.0	300 sqm	1.0	300 sqm	1.0	300 sqm	1.0	1500 sqm	5.0	2.50
3	Pandal for Vegetable production	Rs. 1.00 lakh / ha	50%	8 ha	8.0	10 ha	10.0	10 ha	10.0	10 ha	10.0	38 ha	38.0	19.00
4	Package for plant protection	Rs. 3,000 / ha	50%	115 ha	3.45	115 ha	3.450	115 ha	3.450	115 ha	3.450	460 ha	13.80	6.90
5	Plastics Crates for Vegetable handling and transport	Rs. 250 / no	50%	2100 nos	5.25	2100 nos	5.25	2100 nos	5.25	2100 nos	5.25	8400 nos	21.0	10.50
6	Farm waste shredder / vegetable waste Shredder.	Rs. 40,000 / No	50%	2 nos	0.80	2 nos	0.80	2 nos	0.80	2 nos	0.80	8 nos	3.20	1.60
7	Bore well with casing pipe	Rs. 1.5 lakhs / no	50%	2 nos	3.0	3 nos	4.50	3 nos	4.50	3 nos	4.50	11 nos	16.50	8.25
8	Banana Bunch cover	Rs. 10 / no	50%	56000 nos	5.60	56000 nos	5.60	56000 nos	5.60	56000 nos	5.60	224000 nos	22.40	11.20
9	Humic acid / Effective E Microbes	Rs. 400 / liter	50%	15 lit	0.06	15 lit	0.06	15 lit	0.06	15 lit	0.06	60 lit	0.240	0.12

Table 40 Contd….

Sl. No.	Component	Unit cost	Subsidy Pattern	2008-09		2009-10		2010-11		2011-12		Total		
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Subsidy
10	**Support System for Crops**													
	a. Banana	Rs. 1.50 lakh / ha	75%	14 ha	21.0	18 ha	27.0	18 ha	27.0	18 ha	27.0	68 ha	102.0	76.50
11	Banana Corm injector	Rs. 300 / No	50%	280 nos	0.84	280 nos	0.84	280 nos	0.84	280 nos	0.84	1120 nos	3.36	1.68
12	Mango harvester	Rs. 500 / No	50%	210 nos	1.05	210 nos	1.05	210 nos	1.05	210 nos	1.05	840 nos	4.20	2.10
13	Sales outlet points in districts (Rent and infrastructure)	Rs.2.60 lakhs / No	50%	1 no	2.60	1no	2.60	1 no	2.60	1 no	2.60	4 nos	10.40	5.20
14	District Level Farmers Workshop	Rs.400/ farmer / day	100%	200	0.80	200	0.80	200	0.80	200	0.80	800	3.20	3.20
15	Inter State Exposure visit (5 days)	Rs. 5,000 / farmer	100%	50	2.50	50	2.50	50	2.50	50	2.50	200	10.0	10.00
16	Enterprising farmers associations	Rs.25.00 lakhs / no	100%	..	..	1 nos	25.0	..	..	1 nos	25.0	2 nos	50.0	50.00
17	10 ha mega demo plot for the districts.	Rs.25.00 lakhs / no	100%	1 nos	25.0	..	..	1 nos	25.0	..	..	2 nos	50.0	50.00
				Total	**119.03 (97.455)**		**127.53 (103.205)**		**127.53 (103.205)**		**127.53 (103.205)**		**501.62**	**407.07**

Figures in bracket reperesent yearwise total subsidy portion

Table 41: BUDGET PROPOSAL – ANIMAL HUSBANDRY SECTOR – 2008 - 2012

Sl. No.	Project Title	Unit Cost (Rs. in Lakhs)	2008-2009		2009-10		2010-11		2011-12		Grand Total	
			Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Total Units	Total Cost (Rs. in Lakhs)
	Cattle & Buffalo											
I	**FEED AND FODDER DEVELOPMENT**											
1	Augmentation of fodder production (Co-3) through SHGs/women entrepreneurs, Rs. 0.235 Lakh/acre, 10 acres / Block /year, 14 blocks, for 4 years, 140 acres /year, 560 acres / 4 years (DAH)	0.235	140	32.90	140.00	32.90	140.00	32.90	140	32.90	560	131.60
2	Supply of mineral mixture to dairy cows @ Rs.600/cow/year, 1 kg / cow / month @ Rs.50/kg,12 kg/year, 1400 cows/year, 5,600 cows/years- 4 Blocks (DAH)	0.006	1400	8.40	1400	8.40	1400	8.40	1400	8.40	5600	33.60
3	Supply of hand operated chaff cutters to SHG farmers @ Rs.0.20 Lakh /unit, 50% subsidy, 1 unit / block/year, 14 blocks, for 4 years, 56 units totally, 50 % subsidy (DAH)	0.1	14	1.40	14	1.40	14	1.40	14	1.40	56	5.60
II	**GENETIC UPGRADATION**											
1	Identification and traceability of breedable bovines @ Rs.20/animal, for 1,58,200 animals (DAH)	0.0002	158200	31.64							158200	31.64

Table 41 contd…

Sl. No.	Project Title	Unit Cost (Rs. in Lakhs)	2008-2009		2009-10		2010-11		2011-12		Grand Total	
			Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Total Units	Total Cost (Rs. in Lakhs)
III	**IMPROVEMENT OF LIVESTOCK HEALTH**											
1	Establishment of mobile veterinary clinics @ Rs.5,832 Lakhs/unit, one unit/taluk, 8 taluks, 8 units, (DAH)	5.832	7	40.824							7	40.824
2	Institutional Development-Strengthening of veterinary institutions with basic facilities like fencing, bore-wells, water troughs, minor repairs etc. @ Rs.5.0 Lakh /Institution, for 26 units (DAH)	5	26	130.00							26	130.00
3	Control of parasitic diseases through treatment to enhance vaccine response @ Rs.1/sheep or goat and Rs.3/calf, 4 times per year, Rs. 3.68 Lakhs/year, for 4 years (DAH)			3.68		3.68		3.68		3.68		14.72
4	Establishing Animal disease intelligence unit (DAH)	24.5	1	24.50							1	24.50
IV	**GENETIC UPGRADATION Sheep & Goat**											
1	Supply of Cross bred bucks (40 nos) and Madras Red rams (40 nos) to women SHG farmers @ Rs.4000/buck or ram (DAH)	0.04	20	0.80	20	0.80	20	0.80	20	0.80	80	3.20

Sl. No.	Project Title	Unit Cost (Rs. in Lakhs)	2008-2009		2009-10		2010-11		2011-12		Grand Total	
			Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Total Units	Total Cost (Rs. in Lakhs)
V	Supply of stall-fed goat units (20+1 unit) to SHGs @ Rs.0.42 Lakhs/unit, one unit/block/year, 14 blocks, 4 years, 56 units (DAH)	0.42	14	5.88	14	5.88	14	5.88	14	5.88	56	23.52
VI	**OTHERS**											
1	Popularizing technology on backyard poultry farming (9+1 unit) 200 Nos./ block total 260 batches for 4 years @ Rs. 1000 / batch (DAH)	0.01	65	0.65	65	0.65	65	0.65	65	0.65	260	2.60
2	Health care for existing desi birds @ Rs. 1 / bird for 4.25 lakhs birds (DAH)	0.00001	125000	1.25	100000	1.00	100000	1.00	100000	1.00	425000	4.25
	DAH-Total			**281.924**		**54.71**		**54.71**		**54.71**		**446.054**
1	Programmed breeding indigenous cattle & buffalo to increase conception rate (DDD)	0.007	1400	9.80	1400	9.80	1400	9.80	1400	9.80	5600	39.20
2	Buffalo calf development programme (2000 calves / year) (DDD)	0.148	350	51.80	350	51.80	350	51.80	350	51.80	1400	207.20
3	Mobile input units (one per 50 dcs) (DDD)	4.50	6	27.00					0.00	0.00	6	27.00
4	Supply of mineral mixture to the milch animals at subsidised cost (50%) @ 18 kg/ year (DDD)	0.005	250	1.25	250	1.25	250	1.25	250	1.25	1000	5.00
5	Supply of by-pass protein feed to the milch animals (360kgs/ year/animal @ 50% subsidised cost of Rs.9/- per kg.) (DDD)	0.033	175	5.775	175	5.775	175	5.775	175	5.775	700	23.10

Sl. No.	Project Title	Unit Cost (Rs. in Lakhs)	2008-2009		2009-10		2010-11		2011-12		Grand Total	
			Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Total Units	Total Cost (Rs. in Lakhs)
6	Portable milking machines for farmers (DDD)	0.18	7	1.26	6	1.08	6	1.08	6	1.08	25	4.50
7	Chaff cutters for elite farmers (small type) @ Rs.20,000 as 100% grant (DDD)	0.20	3	0.60	3	0.60	2	0.40	2	0.40	10	2.00
8	Establishment of cattle feed plant (DDD)	465.00	1	232.50	-	232.50					1	465.00
9	Bulk milk cooler (DDD)	30.00	1	30.00	1	30.00					2	60.00
10	Walk-in coolers (DDD)	30.00	1	30.00	1	30.00					2	60.00
11	Revival of dormant MPCS (DDD)	1.00	10	10.00	10	10.00	10	10.00	10	10.00	40	40.00
12	Fodder development activities (for production of fodder seed/ slips in dairy or chilling centres & land of DDD) 32 acres (DDD)	2.10	32	67.20					0.00	0.00	32	67.20
13	Fodder development activities (Totally 50 acres in IDF villages DDD)	0.235	15	3.525	15	3.525	10	2.35	10	2.35	50	11.75
14	Manufacturing facilities for milk khoa (DDD)	0.77	2	1.54	1	0.77	1	0.77	1	0.77	5	3.85
15	Manufacturing facilities for panneer (DDD)	1.02	1	1.02	1	1.02					2	2.04
16	Manufacturing facilities for ice cream (DDD)	1.12	1	1.12	1	1.12					2	2.24
17	Milk weighing machine for Milk Producers Co-Op.Societies (DDD)	0.17	1	0.17	1	0.17	1	0.17			3	0.51
18	P.C.based automatic milk collection stations to IDF villages milk producers cooperative societies (DDD)	1.75	4	7.00	2	3.50	2.00	3.50	0.00	0.00	8	14.00
19	Quality assurance lab strengthening (DDD)	10.00		0.00					1.00	10.00	1	10.00

Sl. No.	Project Title	Unit Cost (Rs. in Lakhs)	2008-2009		2009-10		2010-11		2011-12		Grand Total	
			Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Total Units	Total Cost (Rs. in Lakhs)
20	Farmers study tour @ Rs.5000/- per farmer (DDD)	0.05	40	2.00	40	2.00	40	2.00	30	1.50	150	7.50
21	Sensitisation of public on dairy activities (DDD)	50.00	1	50.00					0	0.00	1	50.00
22	Skill development for technical staff (DDD)	0.05	120	6.00	100	5.00	100	5.00	100	5.00	420	21.00
23	Product production & delivery facility (DDD)	300	1	70.00		75.00		60.00		95.00	1	300.00
24	Energy management system (DDD)	10.00	1	10.00					0	0.00	1	10.00
25	Orientation training / workshop for milk producers at society level (DDD)	0.20	4	0.80	4	0.80	4	0.80	4	0.80	16	3.20
26	Operational efficiency improvement for dairying in Tamil Nadu (DDD)	40.00	1	40.00					0	0.00	1	40.00
	DDD-TOTAL			**660.36**		**465.71**		**154.695**		**195.525**		**1476.29**
1	Strengthening of IFDT, TANUVAS Centre at Koduvalli with a mobile disease investigation cum training unit @ Rs.10.00 Lakhs/unit, one unit, Van (Rs. 7 Lakhs) , Microscope (0.2 Lakhs), LCD Projector (Rs.2.5 Lakhs) and AV Aids (Rs.0.3 Lakhs) (TANUVAS)	10	1	10.00							1	10.00
2	Empowerment of SHG women through skill based livestock and poultry training for income generation (TANUVAS)		5	5.85	5	2.60	5	2.60	5	2.60	20	13.65

Sl. No.	Project Title	Unit Cost (Rs. in Lakhs)	2008-2009		2009-10		2010-11		2011-12		Grand Total	
			Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Units	Cost (Rs. in Lakhs)	Total Units	Total Cost (Rs. in Lakhs)
3	Strengthening of University Research Farm, Madhavaram Milk Colony (TANUVAS)		1	73.24		19.29		21.09		23.08	1	136.70
4	Establishment of Livestock and Poultry Entrepreneurship Development Complex (TANUVAS)		1	452.40						0.00	1	452.40
5	Improving the Productivity of Sheep Through Introduction of Exotic Germplasm (TANUVAS)		1	140.40						0.00	1	140.40
6	Strengthening the infrastructure for Central University Laboratory (TANUVAS)		1	397.50							1	397.50
7	Development of Inactivated Vaccine for Avian Infectious Bronchitis (TANUVAS)		1	40.00		13.00		13.00		0.00	1	66.00
	TANUVAS - Total			**1119.39**		**34.89**		**36.69**		**25.68**		**1216.65**
	Grand total			**2061.674**		**555.31**		**246.095**		**275.915**		**3138.994**

I. Intensive Fodder Production, Supplementation of By-pass Protein Feed and Micronutrients to Dairy Cows and Goats and Enhancement of Nutrient Utilization

Abstract:

Intensive fodder production activity will be taken up by the Department of Animal Husbandry, Thiruvallur, covering a total area of 560 acres at the rate of 10 acres/block/year in all the 14 blocks of the district for a total period of 4 years through Self Help Groups and women entrepreneurs at a total cost of Rs. 131.60 Lakhs. The Aavin, Thiruvallur, will also take up fodder cultivation activity in the IDF villages at 50 acres costing Rs. 11.75 lakhs in the land available at Unions, Chilling Centers, and Milk Producers Co-operative Societies. The Aavin, Thiruvallur will produce fodder slips and seeds in the 32 acres of land available at dairy and chilling centers at a cost of Rs. 67.20.

Mineral mixture will be supplied to the dairy cows through the Department of Animal Husbandry, Thiruvallur to the small farmers at Rs.600/- per cow per year (One kg/animal/month, 12 kg for one year, 1400 cows year and 5600 cows for the four years at a cost of Rs. 33.60 lakhs and at subsidized rate of 50 per cent for 250 farmers per year (1000 farmers for the 4 years) at a cost of Rs. 5.00 lakhs. A total of 6,600 cows will be supplemented with mineral mixture at a total cost of Rs.38.60 Lakhs. Improvement in milk yield and fertility rates is expected from these 6,600 cows benefited.

Ten numbers of hand operated chaff cutters @ Rs.0.20 Lakh/unit will be supplied to the elite members at one unit/farmer at a total cost of Rs. 2.00 Lakhs. Hand operated chaff cutters will be supplied by the Department of Animal Husbandry, Thiruvallur to the SHG farmers at Rs.20,000/- per unit (50% subsidy) , one unit per block per year, 14 units per year, 56 units in a total period of 4 years at a total cost of Rs. 5.60 Lakhs The Aavin, Thiruvallur will supply by-pass protein feed to the milch animals of the members of the society (175 kg/animal/year) for 700 cows @ 50% subsidy of Rs.9/- per kg. The total cost will be Rs. 23.10 Lakhs.

Budget: (Rupees in Lakhs)

Sl. No.	Particulars	Amount (Rs. in Laksh)
1.	Augmentation of fodder production (CO-3) through SHG/women entrepreneurs, Rs. 0.235 Lakhs/acre, 10 acres/block/year, 19 blocks, for 4 years, 560 acres totally (DAH)	131.60
2.	Fodder production at 25 IDF Villages, @ Rs.0.235 Lakhs/acre, 50 acres at Unions, Chilling Centers, Dairies and MPCS @ Rs.0.235 Lakhs/acre, 50 acres (DDD)	11.75
3.	Fodder slips and seeds production in dairy and chilling centers @ Rs.2.1 Lakhs/acre, 32 acres totally (DDD)	67.20
4.	Supply of mineral mixture to dairy cows @ Rs.600/cow/year, for 5600 cows (DAH)	33.60
5.	Supply of mineral mixture at 50 % subsidy @ Rs. 500/- for 18 kg (one year supply) for 1000 animals (DDD)	5.00
6.	Supply of hand operated chaff cutters to SHG farmers @ Rs.0.20 Lakhs/unit, 50% subsidy, 1 unit/block/year, 14 blocks, 56 units for 4 years (DAH)	5.60
7.	Provision of hand operated chaff cutters to elite farmers @ Rs.0.20 Lakh/unit, one unit/farmer, 10 units totally for 10 farmers (DDD)	2.00
8.	Supply of by-pass protein feed to the milch animals (360 kg/animal/year) @ 50 % subsidy, Rs.9/kg, Rs.3,300/- per animal /year, for 175 cows in a period of 4 years, totally 700 animals	23.10
	Total	**279.85**

Background/ Problem Focus:

With shrinkage of pasture lands, rapid urbanization and conversion of agricultural lands in to residential sites, Thiruvallur district is facing a severe shortage of fodder. Many farmers do not supplement minerals in the feed of dairy cattle due to lack of awareness. Supplementation of minerals in dairy cows will improve milk production and reduce infertility problems. Supplementation of micronutrients in small ruminants is not a common practice among the poor farmers. In ruminants, decreasing the particle size of fodder will enhance the utilization of nutrients and improve the production. Most of the dairy farmers are unaware of this technology. By-pass protein feeding is a newer technology in dairy nutrition. It enhances milk production and nutrient utilization with an overall improvement in production and productivity in dairy cows. Conventional feeding although is cheaper does not provide a complete feed to the dairy cows leading to nutritional deficiencies and decreased production and productivity.

Project Rationale:

There is an acute shortage of fodder and the farmers find it difficult to maintain high producing dairy cows owing to the huge demand for green and dry fodder. Hence intensive fodder production activity has to be taken up to meet this heavy demand.

Supplementation of micronutrients and by-pass protein feed to dairy cows and micronutrients to goats is not a common practice and sensitization of the farmers through supply of mineral mixture for their cows and goats for one year will help them to realize their importance. Chopping of fodder will help in the effective utilization of nutrients. Further, ensiling of sugarcane tops during surplus production will help in the availability of fresh fodder to the animals during periods of non-availability. Thus ensiled sugarcane tops will retain the freshness and nutrients including vitamins and enhance the assimilation leading to overall improvement in production and productivity.

Project Strategy:

1. Self Help Groups and interested women entrepreneurs will be selected from each block. Augmentation in quality and quantity of fodder from common property resources through group approach is proposed. Fodder slips will be procured from State Agricultural University and members who have water source alone will be selected. 10 acres of Co-3 fodder will be produced per block involving the SHGs and interested women entrepreneurs. They will be supplied with all inputs for fodder production. Training on scientific fodder production will be given to the SHGs @ Rs.0.035 Lakh/SHG. Inputs for fodder production will be provided @ Rs.0.20 Lakhs/acre. A total number of 14 Groups will be involved in fodder production in all the 14 blocks @ 10 acres/block/year for a period of 4 years. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

2. Fodder production will be taken up by Aavin, Thiruvallur in all the proposed 25 IDF Villages @ Rs.0.235 Lakhs/acre, 5 acres/IDFV, 125 acres totally and additional 50 acres of fodder will be produced at the members' fields. The cost

of production of fodder per acre will be Rs.0.235 Lakhs and the total cost of fodder production for 610 acres will be Rs.143.35 Lakhs. Further Aavin, Thiruvallur will produce fodder seeds and slips in the 32 acres of land available at the dairy or chilling centres @ Rs.2.1 Lakhs per acre and the total cost of production will be Rs. 67.20 Lakhs.

3. There are 14 blocks in the district and infertility is the major problem and deficiency of minerals in the feed of cattle is common since most of the farmers do not provide a complete feed to their cows. Hence supply of 40 grams of mineral mixture per cow per day for one year will largely help to augment milk production and to improve the fertility rate in the cows. The cost of a kg of mineral mixture is Rs.50/- and is sufficient to feed a cow for one month. A total of Rs.600/- is necessary to provide 40 grams of mineral mixture per day per cow for one year. A total of 6,600 cows will be supplied with mineral mixture. Improvement in milk yield and fertility rates is expected from the 6,600 cows benefited. This project will be taken up by the Department of Animal Husbandry, Thiruvallur. Mineral mixture will also be supplied to the milch animals of the members of the society at subsidized cost (50%), @ 18 kg/year/cow @ Rs.250/cow/year. A total number of 1000 cows will be benefited at a total cost of Rs. 5.00 Lakhs..

4. Hand operated chaff cutters will be supplied by the Department of Animal Husbandry, Thiruvallur to the SHG farmers at Rs.20,000/- per unit (50% subsidy) , one unit per block per year, 14 units per year, 56 units in a total period of 4 years at a total cost of Rs. 5.6 Lakhs.

5. Hand operated chaff cutters will be supplied to elite farmers @ Rs.0.20 Lakh/unit at one unit/farmer as 100% subsidy, for 10 farmers totally at a cost of Rs.2.00 Lakhs.. This project will be implemented by Aavin, Thiruvallur.

6. The Aavin, Thiruvallur will supply by-pass protein feed to the milch animals of the members of the society (360 kg/animal/year) for 175 cows per year and totally 1000 cows for 4 years @ 50% subsidy of Rs.9/- per kg. The total cost will be Rs. 23.10 Lakhs.

Project Goals:

1. Augmentation of fodder production to meet the fodder shortage (6600 acres totally)
2. Supplementation of micronutrients in the feed of dairy cows and goats to enhance production and fertility.
3. Enhancement of nutrient utilization in fodder by use of hand-operated to enhance the nutrient utilization.
4. Supply of by-pass protein to 700 milch animals to enhance production.
5. Production of fodder seeds and slips to augment fodder production (32 acres totally)

Project Components:

1. Fodder production – 6600 acres
2. Fodder seeds and slips production – 32 acres
3. Mineral mixture supply to 6600 cows
4. Provision of hand operated chaff cutters to elite farmers – 66 units
5. Supply of by-pass protein feed to 700 milch animals.

Project Cost and Financing:

I. Fodder production:

1. Fodder Production by the Department of Animal Husbandry and the Aavin, Coimbatore -- Rs. 0.235 Lakhs/Acre:

I.	**Training Cost**	
S.No.	**Details**	**Amount (in Rs.)**
1.	Incentive @ Rs.100/person/day, for 2 days, for 15 members	3,000.00
2.	Refreshment expenses @ Rs.10/day/person, for 2 days, 15 persons	300.00
3.	Study materials including scribbling pad, pen etc.@ Rs.15/person, for 15 members	225.00
	Total training cost per SHG	3,525.00

II.	**Fodder Cultivation of Fodder (Co-3) per Acre**	
S.No.	**Name of Operation**	**Amount (in Rs.)**
1 a)	Bush clearance and land reclamation	2,600.00
1.b)	Cost of ploughing	1,600.00
2.	Formation of ridges and furrows/beds and irrigation channels	500.00
3.a)	Cost of fym 10 mt. @ Rs.300/mt.	3,000.00
3.b)	Labour cost for transportation and application, loading and unloading	1,000.00
4.a)	Cost of slips 16,000 numbers @ Rs.0.25 /slip	4,000.00
4.b)	Planting cost	840.00
5.a)	Cost of chemical fertilizers N 150 Kg @ Rs.5.48/kg – 822.00 P 50 Kg @ Rs.10.88/kg – 544.00 K 40 Kg @ Rs.3.85/Kg - 154.00	1,520.00
5. b)	Cost of labour for application	200.00
6.	After cultivation weeding	840.00
7.	Cleaning the channels	500.00
8.	Irrigation charges	800.00
9.	Harvesting charges and transportation	1,600.00
10.	Miscellaneous expenses	800.00
	Total Cost Required Per Acre	20,000.00

	Financial Requirement Per Self Help Group:	**Rs. in Lakhs**
1.	Cost of training per SHG	0.035
2.	Cost of fodder cultivation	0.20
	Total Requirement per SHG	0.235
	Total requirement for 14 blocks with 14 SHG @ 10 Acres /Block/year for 4 years, 560 acres totally	**131.60**
	Total requirement for production of 50 acres of fodder by the Aavin, Thiruvallur	**11.75**

2. Fodder Seeds and Slips Production through Aavin, Coimbatore at Unions, CCs, Dairies and MPCS:

Sl.No	**Particulars**	**Amount (Rs. in Lakhs**
I	**Capital Investment**	
1.	Demarcation of boundary and fencing	0.60
2.	Land development	0.10
3.	Farm sheds for equipments, seeds manure etc.,	0.20
4.	Purchase of agricultural implements	0.10
5.	Creation of irrigation facilities (wells, pumps, powerline, water tanks, pump room, pipeline etc.,)	0.50
	Sub –Total (I)	**1.50**

II	**Recurring Expenditure**	
1.	Wages of supervising staff	0.20
2.	Sedds, fertilizers / manure and insecticides	0.20
3.	Cultivation charges	0.05
4.	Irrigation charges	0.05
5.	Maintenance of store / dead stock	0.05
6.	Miscellaneous	0.05
	Sub-Total (II)	**0.60**
	Grand Total (I + II)	**2.10**

Rs. 2.1 lakhs/acre as above. Totally for 32 Acres – Rs. 67.20 Lakhs

II. Supplementation of Micronutrients and By-pass Protein Feed to Dairy Cows and Goats

Sl. No.	Particulars	Amount (Rs. in Lakhs)
1.	Supply of mineral mixture to dairy cows @ Rs.600/cow/year, 1 kg / cow / month @ Rs.50/kg,12 kg/year, 1400 cows/year, 5,600 cows/years- 4 Blocks (DAH)	33.60
2.	Supply of mineral mixture to the milch animals of the members of the society at subsidized cost (50%), @ 18 kg/year/cow @ Rs.250/cow/year for a total number of 1000 cows	5.00
3.	Supply by-pass protein feed to the milch animals of the members of the society (360 kg/animal/year) for 700 cows @ 50% subsidy of Rs.9/- per kg.	23.10

III. Supply of Chaff Cutters

Sl. No.	Particulars	Amount (Rs. in Lakhs)
1.	Provision of hand operated chaff cutters to elite farmers @ Rs.0.20 Lakh/unit, 10 units, one unit/farmer, totally for 10 farmers, 100% subsidy	2.00
2.	Supply of hand operated chaff cutters to SHG farmers @ Rs.0.20 Lakh /unit, 50% subsidy, 1 unit / block/year, 14 blocks, for 4 years, 56 units totally, 50 % subsidy (DAH)	5.60

Implementation Chart of the Project *

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Augmentation of fodder production (CO-3) through SHG/women entrepreneurs, Rs. 0.235 Lakhs/acre, 10 acres/block/year, 14 blocks, for 4 years, 560 acres totally (DAH)	140 acres	140 acres	140 acres	140 acres
Fodder production at 25 IDF Villages, @ Rs.0.235 Lakhs/acre, 50 acres at Unions, Chilling Centers, Dairies and MPCS @ Rs.0.235 Lakhs/acre, 50 acres (DDD)	15 acres	15 acres	10 acres	10 acres
Fodder slips and seeds production in dairy and chilling centers @ Rs.2.1 Lakhs/acre, 32 acres totally (DDD)	32 acres	-	-	-
Supply of mineral mixture to dairy cows @ Rs.600/cow/year, for 5600 cows (DAH)	1400 cows	1400 cows	1400 cows	1400 cows
Supply of mineral mixture to the milch animals of the members of the society at subsidized cost (50%), @ 18 kg/year/cow @ Rs.250/cow/year for a total number of 1000 cows	250 cows	250 cows	250 cows	250 cows
Supply of hand operated chaff cutters to SHG farmers @ Rs.0.20 Lakhs/unit, 50% subsidy, 1 unit/block/year, 14 blocks, 56 units for 4 years (DAH)	14 units	14 units	14 units	14 units
Provision of hand operated chaff cutters to elite farmers @ Rs.0.20 Lakh/unit, one unit/farmer, 10 units totally for 10 farmers (DDD)	10 units	-	-	-
Supply by-pass protein feed to the milch animals of the members of the society (360 kg/animal/year) for 700 cows @ 50% subsidy of Rs.9/- per kg.	175 cows	175 cows	175 cows	175 cows

***** This may vary from plan to plan

Reporting:

1. Fodder and fodder seeds and slips production:

The Regional Joint Director of Animal Husbandry, Thiruvallur and the General Manager, The Thiruvallur District Co-operative Milk Producers Union Limited, Thiruvallur will implement the projects. Monthly progress of the projects will be submitted to the concerned higher authorities.

2. Supply of mineral mixture and by-pass protein feed to the dairy cows and salt licks to goat farmers:

The General Manager, The Thiruvallur District Co-operative Milk Producers Union Limited, Thiruvallur and the Regional Joint Director of Animal Husbandry, Thiruvallur, will implement the projects. Monthly progress of the projects will be submitted to the concerned higher authorities.

3. Provision of chaff cutters to IDF villages and hand operated chaff cutters to SHG and elite farmers:

The General Manager, The Thiruvallur District Co-operative Milk Producers Union Limited, Thiruvallur and the Regional Joint Director of Animal Husbandry, Thiruvallur will implement the projects. Monthly progress of the projects will be submitted to the concerned higher authorities.

II. Genetic Upgradation of Cattle, Buffaloes, Sheep and Goats, Improvement of Livestock Health and Supply of Goat Units to SHG

Abstract:

a. Tracking the Breedable Bovines in the District:

It is estimated that the district has a total number of 158200 breedable bovine population. Tracking the breedable bovines with an ear tag and a passbook at a cost of Rs.20/- per animal is proposed. The total outlay is Rs. 31.64 Lakhs. The project will be jointly implemented by the Department of Animal Husbandry, Thiruvallur and Aavin, Thiruvallur. Programmed breeding indigenous cattle and buffalo to increase conception rate of 5600 numbers @ 0.007 lakhs per animal and cost totaling Rs. 39.20 lakhs.

b. Genetic upgradation of sheep and goats:

Supply of crossbred bucks and Madras Red rams to the Self Help Group Women in the district for cross-breeding of the non-descript poorly performing sheep and goats to augment the mutton and chevon production. Each active SHG will be provided with one crossbred buck and one Madras Red ram @ Rs. 4,000/- per

ram/buck. A total number of 40 rams and 40 bucks will be supplied at a total cost of Rs. 3.20 Lakhs. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

c. Establishment of mobile veterinary clinics and mobile input units :

Mobile veterinary clinics (7 units) will be established at a total cost of Rs. 40.82 Lakhs @ Rs.5.832 Lakhs/unit under the Department of Animal Husbandry, Thiruvallur for provision of health cover facilities in remote areas in the district. Mobile input units of 6 numbers at a cost of 27.0 lakhs. Animal disease intelligent unit will be established under the Department of Animal Husbandry, Thiruvallur at a total cost of Rs. 24.50 Lakhs to provide timely services to the farmers.

d. Strengthening of veterinary institutions:

A total number of 26 veterinary institutions in the district will be strengthened with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works also will be carried out at a total cost of Rs. 130.00 Lakhs @ Rs.5.00 Lakhs / institution. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

f. Control of parasitic diseases to enhance vaccine response:

The sheep, goats and calves below one year of age will be dewormed 4 times in a year before vaccinating them to enhance the vaccine response in them. The cost of the project will be Rs.3.68 Lakhs per year. The total cost will be Rs. 14.72 Lakhs for 4 years. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

Health care for existing desi birds in the district will be carried out to reduce the mortality. The total cost will be 4.25 lakhs. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

g. Buffalo calf development programme:

The total cost for the supply of feed, vaccines and deworming will be Rs.14,800/-/buffalo calf. A total number of 1400 calves will be benefited at a period of 4 years @ 350 calves per year. The total project cost will be Rs.207.20 Lakhs. The project will be implemented by the DDD, Thiruvallur.

h. Supply of stall-fed goat units:

Goat units (20+1) will be supplied to the self help groups in the district @ Rs.0.42 Lakhs /unit. One unit/block/year, for 4 years, 14 blocks, 56 units totally at a total cost of Rs. 23.52 Lakhs. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

Popularizing technology on backyard poultry farming with 9 +1 units to the blocks comprising of 260 batches. The project cost is 2.60 lakhs. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

Budget: (Rupees in Lakhs)

Sl. No.	Particulars	Amount (Rs. in Lakhs)
1.	Tracking the breedable bovine population with an ear tag and a passbook @ Rs.20/- animal, for 158200 animals (DAH and DDD)	31.64
2.	Programmed breeding of cattle buffaloes @ Rs.1400/animal, for 5600 cows and buffaloes (DDD)	39.20
3.	Supply of 40 Madras Red rams and 40 crossbred bucks to the self help groups @ Rs.4,000/- per buck/ram	3.20
4.	Establishment of mobile veterinary clinics @ Rs.5.832 Lakhs/unit, 7 units totally (DAH)	40.824
5.	Establishment of mobile input units @ 4.50 lakhs/unit, 6 units	27.00
6.	Establishment of animal disease intelligent unit (DAH) – one number	24.50
7.	Strengthening of 26 veterinary institutions with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works @ Rs.5.00 Lakhs/unit (DAH)	130.00
8.	Control of parasitic diseases to enhance vaccine response @ Rs.1/- per sheep or goat and Rs.3/- per calf below one year, 4 times /year, Rs. 3.68 Lakhs/year, for 4 years (DAH)	14.72
9.	Health care for existing desi birds @ Rs. 1 / bird for 4.25 lakhs brids (DAH)	4.25
10.	Buffalo calf development programme @ Rs. 14,800/- per calf, 350 calves/year, 1400 calves for 4 years (DDD)	207.20
12.	Supply of stall-fed goat units (20+1) to SHG @ Rs.0.42 Lakhs/unit, one unit/block/year, for 4 years, 14 blocks, 56 units totally	23.52
13.	Popularizing technology on backyard poultry farming (9+1 unit) 200 Nos./ block total 260 batches for 4 years @ Rs. 1000 / batch (DAH)	2.60
	Total	**548.654**

Background/ Problem Focus:

a. Tracking the Breedable Bovines in the District:

It is estimated that the district has a total number of 158200 breedable bovine population. Tracking the breedable bovines with an ear tag and a passbook will help to follow the animals and will be the first step in the registration of bovines with accurate details about the animal, its health status etc. In order to improve the conception rate of indigenous cattle and buffalo by programmed breeding is proposed.

b. Synchronized Breeding of Cattle and Buffaloes:

Estrus synchronization will be planned in indigenous cattle and buffaloes to increase conception rate. Buffaloes exhibit silent heat and hence become difficult to inseminate them for conception.

c. Genetic upgradation of sheep and goats:

The present stock of sheep and goats available with the farmers in the district are inferior in terms of production and performance. Mecheri is a proven mutton sheep breed and Tellicherry goat breed performs well under field conditions. Cross-breeding of the non-descript sheep and goats with such superior germplasm will augment mutton and chevon production in the district.

d. Establishment of mobile veterinary clinics, mobile input units and animal disease intelligent unit :

There is a shortfall in the number of veterinary institutions in the district as against the total livestock population. Further, door-to-door timely health cover facilities especially in the remote villages of the district is very essential as these villages have a considerable livestock population and the farmers mainly depend on these animals for their livelihood. Animal disease intelligent unit is also proposed with the same background.

e. Strengthening of veterinary institutions:

A total number of 26 veterinary institutions in the district are not provided with certain basic facilities like fencing, provision of bore-wells, water troughs and minor repair works need to be carried out.

f. Control of parasitic diseases to enhance vaccine response:

The sheep, goats and calves below one year of age have to be dewormed 4 times in a year before vaccinating them to enhance the vaccine response in them. At present the practice of deworming the sheep, goat and calves before vaccinating them is not in vogue.

Health care for existing desi birds in the district will be carried out to reduce the mortality.

g. Buffalo calf development programme:

There is a decline in the production and productivity of buffaloes in the district. There is mortality in the buffalo calves due to under nourishment. The farmers must be encouraged to raise buffaloes through the care and management of buffalo calves to improve the production of buffaloes in the district.

h. Supply of stall-fed goat units:

Intensive management with stall-feeding of goats is becoming popular due to decreased availability of grazing lands.

Popularizing technology on backyard poultry farming in kancheepuram.

4. Project Rationale:

a. Tracking the Breedable Bovines in the District:

It is estimated that the district has a total number of 158200 breedable bovine population. Tracking the breedable bovines with an ear tag and a passbook will help to follow the animals and will be the first step in the registration of bovines with accurate details about the animal, its health status etc.

Buffaloes exhibit silent heat and it becomes difficult to provide timely insemination services leading to huge economic losses. Because of this reason, the farmers are reluctant to rear buffaloes. Estrus synchronization will bring all the animals to heat at a specific time and will help to provide timely insemination.

c. Genetic upgradation of sheep and goats:

The present stock of sheep and goats available with the farmers in the district are inferior in terms of production and performance. Madras Red is a proven mutton sheep breed and crossbred goat performs well under field conditions. Cross-breeding

of the non-descript sheep and goats with such superior germplasm will augment mutton and chevon production in the district.

d. Establishment of mobile veterinary clinics,mobile input units and animal disease intelligent unit :

Each mobile veterinary clinic will consist of one VAS and one driver. The staff for the clinic will be sourced from the available staff in the department. The unit will be provided with one vehicle at a cost of Rs. 4.75 Lakhs. The VAS will be in-charge of the vehicle. The vehicle will cover remote and inaccessible villages on a scheduled programme of operation. Medicines will be sourced from the veterinary institutions available in the block itself. Necessary equipment like gags, scalpels, scissors, suture needles, forceps, A.I. guns etc. apart from Liquid Nitrogen containers and sheath will be provided to each unit. Diesel worth Rs.45,000/- will be provided per year to each unit. The unit will prepare a tour programme on 6 days a week basis and the farmers will be intimated well in advance. One animal disease intelligent unit will be established by the DAH to provide timely diagnosis of diseases. The total cost will be Rs.24.50 Lakhs.

e. Strengthening of veterinary institutions in the district:

A total number of 26 veterinary institutions in the district will be strengthened with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works also will be carried out at a total cost of Rs. 130.00 Lakhs @ Rs.5.00 Lakhs / institution.

f. Control of parasitic diseases to enhance vaccine response:

The sheep, goats and calves below one year of age will be dewormed 4 times in a year before vaccinating them to enhance the vaccine response in them. The cost of deworming will be Rs.1/- per sheep or goat and Rs. 3 /- for a calf below 1 year of age. The deworming will be done 4 times a year, before vaccination. The total cost of the project will be Rs.3.68 Lakhs per year. The total cost will be Rs. 14.72 Lakhs for 4 years. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

Health care for existing desi birds in the district will be carried out to reduce the mortality. The total cost will be 4.25 lakhs. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

g. Buffalo calf development programme:

The total cost for the supply of feed, vaccines and deworming will be Rs.14,800/-/buffalo calf. A total number of 1400 calves will be benefited at a period of 4 years @ 350 calves per year. The total project cost will be Rs.207.20 Lakhs. The project will be implemented by the DDD, Thiruvallur.

h. Supply of stall-fed goat units to SHG:

Intensive management with stall-feeding of goats is becoming popular due to decreased availability of grazing lands.

Popularizing backyard poultry farming in kancheepuram district.

Project Strategy:

a. Tracking the Breedable Bovines in the District:

It is estimated that the district has a total number of 158200 breedable bovine population. Tracking the breedable bovines with an ear tag and a passbook at a cost of Rs.20/- per animal is proposed. The total outlay is Rs. 31.64 Lakhs.

Buffaloes exhibit silent heat and it becomes difficult to provide timely insemination services leading to huge economic losses. Because of this reason, the farmers are reluctant to rear buffaloes. Estrus synchronization will bring all the animals to heat at a specific time and will help to provide timely insemination.

b. Genetic upgradation of sheep and goats:

Madras Red rams and crossbred bucks will be maintained by the Self Help Group Women in the district for cross-breeding of the non-descript poorly performing sheep and goat breeds to augment the mutton and chevon production. Each active SHG will be provided with one Madras Red ram and one crossbred buck @ Rs. 4,000/- per ram or buck.

d. Establishment of mobile veterinary clinics, mobile input units and animal disease intelligent unit :

Each mobile veterinary clinic will consist of one VAS and one driver. The staff for the clinic will be sourced from the available staff in the department. The unit will be provided with one vehicle at a cost of Rs. 4.75 Lakhs. The VAS will be in-charge of the vehicle. The vehicle will cover remote and inaccessible villages on a

scheduled programme of operation. Medicines will be sourced from the veterinary institutions available in the block itself. Necessary equipment like gags, scalpels, scissors, suture needles, forceps, A.I. guns etc. apart from Liquid Nitrogen containers and sheath will be provided to each unit. Diesel worth Rs.45,000/- will be provided per year to each unit. The unit will prepare a tour programme on 6 days a week basis and the farmers will be intimated well in advance. One animal disease intelligent unit will be established by the DAH to provide timely diagnosis of diseases. The total cost will be Rs.24.50 Lakhs.

e. Strengthening of veterinary institutions in the district:

A total number of 26 veterinary institutions in the district will be strengthened with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works also will be carried out at a total cost of Rs. 130.00 Lakhs @ Rs.5.00 Lakhs / institution.

f. Control of parasitic diseases to enhance vaccine response:

The sheep, goats and calves below one year of age will be dewormed 4 times in a year before vaccinating them to enhance the vaccine response in them. The cost of deworming will be Rs.1/- per sheep or goat and Rs. 3 /- for a calf below 1 year of age. The deworming will be done 4 times a year, before vaccination. The total cost of the project will be Rs.3.68 Lakhs per year. The total cost will be Rs. 14.72 Lakhs for 4 years. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

Health care for existing desi birds in the district will be carried out to reduce the mortality. The total cost will be 4.25 lakhs. The project will be implemented by the Department of Animal Husbandry, Thiruvallur.

g. Buffalo calf development programme:

The total cost for the supply of feed, vaccines and deworming will be Rs.14,800/-/buffalo calf. A total number of 1400 calves will be benefited at a period of 4 years @ 350 calves per year. The total project cost will be Rs.207.20 Lakhs. The project will be implemented by the DDD, Thiruvallur.

h. Supply of stall-fed goat units to SHG:

Intensive management with stall-feeding of goats is becoming popular due to decreased availability of grazing lands.

Popularizing backyard poultry farming in Thiruvallur district.

Project Goals:

- Tracing the breedable bovines in the district.
- Estrus synchronization in selected 5600 cattle and buffaloes
- Upgradation of the existing native non-descript sheep and goats through cross-breeding with Madras Red rams and Crossbred bucks (40 numbers each) to increase the mutton and chevon production.
- Establishment of 7 mobile veterinary clinics, mobile input units 6 and one animal disease intelligent uint.
- Strengthening of 26 veterinary institutions in the district with basic facilities.
- Control of parasitic diseases in sheep, goats and calves (below one year of age) through deworming to enhance vaccine response.
- Health care of desi bids will be maintained
- To develop 1400 buffalo calves through supply of feed.
- To establish 56 stall-fed goat units to promote intensive management of goats.
- Popularizing backyard poultry farming
- Increasing the milch buffalo population
- Enhancing backyard poultry farming income and employment generation

Project Components:

a. Tracking the Breedable Bovines in the District:

Tracking the breedable bovines with an ear tag and a passbook when the animal comes for A.I.

Estrus synchronization will be carried out in 5600 numbers of cattle and buffaloes at a total cost of Rs. 39.20 Lakhs @ Rs.700/animal. It involves use of hormones, deworming, monitoring etc.

b. Genetic upgradation of sheep and goats:

1. Supply of Madras Red rams and Crossbred bucks
2. Maintenance of the animals by women SHGs in the district
3. Cross-breeding of the native non-descript sheep and goats with superior germplasm.

c. Establishment of mobile veterinary clinics, mobile input units and animal disease intelligent unit :

Each mobile veterinary clinic will consist of one VAS and one driver. The staff for the clinic will be sourced from the available staff in the department. The unit will be provided with one vehicle at a cost of Rs. 4.75 Lakhs. The VAS will be in-charge of the vehicle. The vehicle will cover remote and inaccessible villages on a scheduled programme of operation. Medicines will be sourced from the veterinary institutions available in the block itself. Necessary equipment like gags, scalpels, scissors, suture needles, forceps, A.I. guns etc. apart from Liquid Nitrogen containers and sheath will be provided to each unit. Diesel worth Rs.45,000/- will be provided per year to each unit. The unit will prepare a tour programme on 6 days a week basis and the farmers will be intimated well in advance. One animal disease intelligent unit will be established by the DAH to provide timely diagnosis of diseases. The total cost will be Rs.24.50 Lakhs.

Breakup details for one mobile input unit

Sl. No.	Details	per month expenditure in Rs.	Per Year Rs. In lakh
1	Salary for veterinarian and one attendant, taxi hire charges	30000	**3.60**
2	Medicines	8000	
3	Veterinary equipment	66000	**0.66**
4	Registers, monitoring Administrative charges	2000	**0.24**
	Total per unit		**4.50**

d. Strengthening of veterinary institutions in the district:

A total number of 26 veterinary institutions in the district will be strengthened with basic facilities like fencing, provision of bore-wells, water troughs and minor

repair works also will be carried out at a total cost of Rs. 130.00 Lakhs @ Rs.5.00 Lakhs / institution.

e. Control of parasitic diseases to enhance vaccine response:

The sheep, goats and calves below one year of age will be dewormed 4 times in a year before vaccinating them to enhance the vaccine response in them. The cost of deworming will be Rs.1/- per sheep or goat and Rs. 3 /- for a calf below 1 year of age. The deworming will be done 4 times a year, before vaccination. The total cost of the project will be Rs.3.68Lakhs per year. The total cost will be Rs. 14.72 Lakhs for 4 years. The project will be implemented by the Department of Animal Husbandry, Thiruvallur. Health care for existing desi birds @ Rs. 1 / bird for 4.25 lakhs birds (DAH).

f. Buffalo calf development programme:

The total cost for the supply of feed, vaccines and deworming will be Rs.14,800/-/buffalo calf. A total number of 1400 calves will be benefited at a period of 4 years @ 350 calves per year. The total project cost will be Rs.207.20 Lakhs. The project will be implemented by the DDD, Thiruvallur.

g. Supply of stall-fed goat units to SHG:

Supply of stall-fed goat units (20+1) to SHG @ Rs.0.42 Lakhs/unit, one unit/block/year, for 4 years, 14 blocks, 56 units totally.

Popularizing technology on backyard poultry farming (9+1 unit) 200 Nos./ block total 440 batches for 4 years @ Rs. 1000 / batch.

Project Cost and Financing:

(Amount in Rs. Lakhs)

Activity	2008-2009	2009-2010	2010-2011	2011-2012	Total Cost
1. Tracking the breedable bovine population with an ear tag and a passbook @ Rs.20/- animal, for 158000 animals (DAH, DDD)	31.64	-	-	-	31.64
2. Programmed breeding of cattle and buffaloes @ Rs.700/animal, for 5600 animals.(DDD)	9.80	9.80	9.80	9.80	39.20
3. Supply of 40 Madras Red rams and 40 Crossbred bucks to the self help groups @ Rs.4,000/- per buck/ram (DAH)	0.80	0.80	0.80	0.80	3.2

4. Establishment of mobile veterinary clinics @ Rs.5.832 Lakhs/unit, 7 units totally (DAH)	40.82	-	-	-	40.82
5. Establishment of mobile input units , 6 numbers	27.00	-	-	-	27.00
6. Establishment of one animal disease intelligent unit (DAH)	24.50	-	-	-	24.50
7. Strengthening of 26 veterinary institutions with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works @ Rs.5.00 Lakhs/unit (DAH)	130.0	-	-	-	130.0
8. Control of parasitic diseases to enhance vaccine response @ Rs.1/- per sheep or goat and Rs.3/- per calf below one year, 4 times /year, Rs. 14.7 Lakhs/year, for 4 years (DAH)	3.68	3.68	3.68	3.68	14.72
9. Health care for existing desi birds @ Rs. 1 / bird for 4.25 lakhs brids (DAH)	1.25	1.00	1.00	1.00	4.25
10. Buffalo calf development programme @ Rs. 14,800/- per calf, The cost includes feed cost, identification, insurance, deworming, vaccination, breeding and health cover, 350 calves/year, 1400 calves for 4 years (DDD)	51.80	51.80	51.80	51.80	207.20
11. Supply of stall-fed goat units (20+1) to SHG @ Rs.0.42 Lakhs/unit, one unit/block/year, for 4 years, 14 blocks, 56 units totally (DAH)	5.88	5.88	5.88	5.88	23.52
12. Popularizing technology on backyard poultry farming (9+1 unit) 200 Nos./ block total 260 batches for 4 years @ Rs. 1000 / batch (DAH)	0.65	0.65	0.65	0.65	2.60
TOTAL	**327.82**	**73.61**	**73.61**	**73.61**	**548.65**

Implementation Chart of the Project:

Activity	2008-2009	2009-2010	2010-2011	2011-2012
1. Tracking the breedable bovine population with an ear tag and a passbook	158000 cows	-	-	-
2. Programmed breeding of cattle and buffaloes	1400 animals	1400 animals	1400 animals	1400 animals
3. Supply of 40 Madras Red rams and 40 Crossbred bucks to the self help groups	20	20	20	20
4. Establishment of mobile veterinary clinics, 7 units totally	7	-	-	-

5. Establishment of mobile input units, 6	6			
6. Establishment of animal disease intelligent unit	1	-	-	-
7. Strengthening of 26 veterinary institutions with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works	26	-	-	-
8. Control of parasitic diseases to enhance vaccine response @ Rs.1/- per sheep or goat and Rs.3/- per calf below one year, 4 times /year, Rs. 14.7 Lakhs/year, for 4 years	*	*	*	*
9. Health care for existing desi birds @ Rs. 1 / bird for 4.25 lakhs birds (DAH)	125000	100000	100000	100000
10. Buffalo calf development programme @ Rs. 14,800/- per calf, 350 calves/year, 1400 calves for 4 years	350 calves	350 calves	350 calves	350 calves
11. Supply of stall-fed goat units (20+1) to SHG @ Rs.0.42 Lakhs/unit, one unit/block/year, for 4 years, 14 blocks, 56 units totally	14 units	14 units	14 units	14 units
12. Popularizing technology on backyard poultry farming (9+1 unit) 200 Nos./ block total 260 batches for 4 years @ Rs. 1000 / batch (DAH)	65 units	65 units	65 units	65 units

Reporting:

a. Tracking the Breedable Bovines in the District:

The project will be jointly implemented by the Department of Animal Husbandry, Thiruvallur and Aavin, Thiruvallur and will submit periodical monthly reports to the appropriate authorities

The project will be implemented by the DDD, Thiruvallur and will submit periodical monthly reports to the appropriate authorities

b. Genetic upgradation of sheep and goats:

The Regional Joint Director of Animal Husbandry, Thiruvallur will implement the Scheme and he will submit periodical monthly reports to the appropriate authorities.

c. Establishment of mobile veterinary clinics:

The Regional Joint Director of Animal Husbandry, Thiruvallur will implement the Scheme and he will submit periodical monthly reports to the appropriate authorities

d. Establishment of mobile input units and animal disease intelligent unit :

The project will be implemented by the DAH, Thiruvallur and will submit periodical monthly reports to the appropriate authorities

e. Strengthening of 26 veterinary institutions with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works:

The Regional Joint Director of Animal Husbandry, Thiruvallur will implement the Scheme and he will submit periodical monthly reports to the appropriate authorities

f. Control of parasitic diseases to enhance vaccine response:

The Regional Joint Director of Animal Husbandry, Thiruvallur will implement the Scheme and he will submit periodical monthly reports to the appropriate authorities

g. Buffalo calf development programme:

The project will be implemented by the DDD, Thiruvallur and will submit periodical monthly reports to the appropriate authorities.

h. Supply of stall-fed goat units to SHG:

The Regional Joint Director of Animal Husbandry, Thiruvallur will implement the Scheme and he will submit periodical monthly reports to the appropriate authorities

III. Improvement of Milk Collection, Processing, Value-addition and Marketing Facilities

Abstract:

Twenty five portable milking machines will be supplied to the members of the society at a total cost of Rs.4.50 Lakhs @ Rs.0.18 Lakhs/unit. Provision of 3 nos of milk weighing machines at a cost of 0.51 lakh, @ 0.17 lakh per piece will help to improve the collection and quality of milk. Two bulk milk coolers will be established to improve the keeping quality of milk unitl it is processed. The total cost will be Rs.60.0 Lakhs. Two units of walk-in-cooler will be established at a total cost of Rs. 60.0 Lakhs. A total number of 40 dormant societies will be revived with necessary inputs @ Rs.1.0 Lakh per unit at a total cost of Rs. 40 Lakhs. Five khoa manufacturing units (@ Rs.0.77 Lakhs/unit), two paneer making units (@ Rs.1.02

Lakhs/unit) and two ice-cream making units (@ Rs. 1.12 Lakhs/unit) will be established at a total cost of Rs. 16.29 Lakhs to promote value-addition of milk. Eight number of PC-based automatic milk collection stations will be established at IDF villages and milk producers' co-operative societies at a total cost of Rs.14.00 Lakhs @ Rs.1.75 Lakhs/unit. The quality assurance laboratory at Thiruvallur dairy will be strengthened at a total cost of Rs. 10.0 Lakhs. A project on energy management system will be implemented at a total cost of Rs.10.0 Lakhs. Sensitization of public on dairy activities at a cost of 50.00 lakhs. Product production and delivery facilities at a cost of Rs. 300.00 lakhs. Operational efficiency improvement for dairying in Tamilnadu at a cost of Rs. 40.00 lakhs. Establishment of cattle feed plant at a cost of Rs. 465.00 lakhs.

Budget: (Rupees in Lakhs)

Sl. No.	Particulars	Amount (Rs. in lakhs)
1.	Supply of portable milking machines to members of the Society @ Rs. 0.18 Lakhs, 25 Units totally (DDD)	4.50
2.	Supply of milk weighing machine @ Rs. 0.17, 3 units	0.51
3.	Provision of bulk milk coolers @ Rs.30.0 Lakhs/unit, 2 units (DDD)	60.00
4.	Provision of a walk-in-cooler @ Rs. 30.0 Lakhs/unit , 2 units(DDD)	60.00
5.	Revival of 40 dormant milk producers' co-operative societies @ Rs.1.0 Lakhs/unit, 25 societies (DDD)	40.00
6.	Establishment of five khoa manufacturing units @ Rs. 0.77 Lakhs/unit (DDD)	3.85
7.	Establishment of two paneer manufacturing units @ Rs. 1.02 Lakhs/unit (DDD)	2.04
8.	Establishment of two ice-cream manufacturing units @ Rs. 1.12 Lakhs/unit (DDD)	2.24
9.	Provision of eight numbers of PC-based automatic milk collection stations to IDF villages and milk producers' co-operative societies @ Rs. 1.75 Lakhs/unit, 8 units (DDD)	14.00
10.	Quality assurance laboratory strengthening (DDD)	10.00
11.	Energy management system (DDD)	10.00
12.	Sensitization of public on dairy activities (DDD)	50.00
13.	Product production and delivery facilities (DDD)	300.00
14.	Operational efficiency improvement for dairying in Tamilnadu (DDD)	40.00
15.	Establishment of cattle feed plant (DDD)	465.00
	Total	**1062.14**

Background/ Problem Focus:

Presently hand-milking is practiced by the farmers. There is shortage of milkmen and problems of mastitis are common in hand milking. Automatic milking machines saves time, labour and prevents the occurrence of mastitis in cows. The

processing plant at the main dairy of Aavin has a capacity of 2 lakh litres but the present handling is 2.05 lakh litres. The main dairy and chilling centers handle more than their actual capacities. Further, the chilled milk from the chilling centers are being transported to the Main dairy at Thiruvallur and inturn, packaged milk is being transported from Thiruvallur to Chennai for sale at Chennai.

Establishment of a bulk milk coolers and walk-in-coolers will help to maintain the quality of milk until it is processed and marketed. A total number of 40 milk producers' co-operative societies are dormant. This leads to decrease in the quantity of milk procured. They have to be revived with necessary inputs to improve the quantum of milk production in the district.

Facilities for the manufacture of value-added milk products like khoa, paneer and ice-cream have to be strengthened to utilize surplus milk during certain seasons. Also this will meet to the demand for these products by the urban population. Electronic weighing balances are to be provided to small societies to weigh milk.

Further, in societies handling more than 500 litres of milk per day, it is essential to establish PC- based automatic milk collection stations. The quality assurance laboratory at the Aavin main dairy needs to be strengthened with certain basic facilities for assessment of milk quality at different stages of processing and marketing. Energy management system in the main processing plant will save power and will be economical. Project on Sensitization of public on dairy activities, Product production and delivery facilities, Operational efficiency improvement for dairying in Tamilnadu and Establishment of cattle feed plant for the benefit of dairy farmers of Thiruvallur district.

Project Rationale:

Milking machines will save labour, time and prevent the occurrence of mastitis in dairy cows. Bulk milk coolers and walk-in-coolers will help to keep the quality of milk until it is processed and marketed. Revival of dormant milk producers' co-operative societies will boost the milk production. Establishment of manufacturing units for khoa, paneer and ice-cream will help in value-addition of milk. Provision of milk weighing machines to societies will help in the accurate weighment of milk. Automatic PC-based milk collection stations will save time, manpower, provide

accurate weighment of milk, stores the milk data for several months and provide confidence among the members of the societies. Project on Sensitization of public on dairy activities, Product production and delivery facilities, Operational efficiency improvement for dairying in Tamilnadu and Establishment of cattle feed plant for the benefit of dairy farmers of Thiruvallur district.

Project Strategy:

Twenty five portable milking machines will be supplied to the members of the society at a total cost of Rs.4.50 Lakhs @ Rs.0.18 Lakhs/unit. Provision of 3 nos of milk weighing machines at a cost of 0.51 lakh, @ 0.17 lakh per piece will help to improve the collection and quality of milk. Two bulk milk coolers will be established to improve the keeping quality of milk unitl it is processed. The total cost will be Rs.60.0 Lakhs. Two units of walk-in-cooler will be established at a total cost of Rs. 60.0 Lakhs. A total number of 40 dormant societies will be revived with necessary inputs @ Rs.1.0 Lakh per unit at a total cost of Rs. 40 Lakhs. Five khoa manufacturing units (@ Rs.0.77 Lakhs/unit), two paneer making units (@ Rs.1.02 Lakhs/unit) and two ice-cream making units (@ Rs. 1.12 Lakhs/unit) will be established at a total cost of Rs. 16.29 Lakhs to promote value-addition of milk. Eight number of PC-based automatic milk collection stations will be established at IDF villages and milk producers' co-operative societies at a total cost of Rs.14.00 Lakhs @ Rs.1.75 Lakhs/unit. The quality assurance laboratory at Thiruvallur dairy will be strengthened at a total cost of Rs. 10.0 Lakhs. A project on energy management system will be implemented at a total cost of Rs.10.0 Lakhs. Sensitization of public on dairy activities at a cost of 50.00 lakhs. Product production and delivery facilities at a cost of Rs. 300.00 lakhs. Operational efficiency improvement for dairying in Tamilnadu at a cost of Rs. 40.00 lakhs. Establishment of cattle feed plant at a cost of Rs. 465.00 lakhs.

Project Goals:

1. Clean milk production, saving labour and time and prevention of mastitis through installation of milking machines.
2. Improvement of the milk quality until processing and marketing through establishment of bulk milk coolers and walk-in-coolers.

3. Augmentation of milk production through revival of dormant societies.
4. Value-addition of milk by establishing khoa, paneer and ice-cream making units.
5. Accurate weighment of milk in societies through supply of weighing machines.
6. Saving time, labour and accurate weighment of milk through establishment of automatic PC-based milk collection stations.
7. Project on Sensitization of public on dairy activities, Product production and delivery facilities, Operational efficiency improvement for dairying in Tamilnadu and Establishment of cattle feed plant for the benefit of dairy farmers of Thiruvallur district.

Project Components:

Twenty five portable milking machines will be supplied to the members of the society at a total cost of Rs.4.50 Lakhs @ Rs.0.18 Lakhs/unit. Provision of 3 nos of milk weighing machines at a cost of 0.51 lakh, @ 0.17 lakh per piece will help to improve the collection and quality of milk. Two bulk milk coolers will be established to improve the keeping quality of milk unitl it is processed. The total cost will be Rs.60.0 Lakhs. Two units of walk-in-cooler will be established at a total cost of Rs. 60.0 Lakhs. A total number of 40 dormant societies will be revived with necessary inputs @ Rs.1.0 Lakh per unit at a total cost of Rs. 40 Lakhs. Five khoa manufacturing units (@ Rs.0.77 Lakhs/unit), two paneer making units (@ Rs.1.02 Lakhs/unit) and two ice-cream making units (@ Rs. 1.12 Lakhs/unit) will be established at a total cost of Rs. 16.29 Lakhs to promote value-addition of milk. Eight number of PC-based automatic milk collection stations will be established at IDF villages and milk producers' co-operative societies at a total cost of Rs.14.00 Lakhs @ Rs.1.75 Lakhs/unit. The quality assurance laboratory at Thiruvallur dairy will be strengthened at a total cost of Rs. 10.0 Lakhs. A project on energy management system by installing one solar water heating unit having 5000 litres capacity will be implemented at a total cost of Rs.10.0 Lakhs. Sensitization of public on dairy activities at a cost of 50.00 lakhs. Product production and delivery facilities at a cost of Rs. 300.00 lakhs. Operational efficiency improvement for dairying in Tamilnadu at a cost of Rs. 40.00 lakhs.

Product production and delivery facilities at a cost of Rs. 300.00 lakhs

S. No	Equipments	Project implementation period	Project cost Rs.	Project cost for each period
1.	Chocobar, Kulfibar, Mangoduet, etc., stick production machineries. (Semi auto type)	2008-09	20 lakhs	
2.	Ice cream cup filling machine	2008-09	25 Lakhs	
3.	Ice cream mix aging tank 1000lts	2008-09	25 Lakhs	70 Lakhs
4.	Ice cream storage (Hardening chamber)	2009-10	50 Lakhs	
5.	Ice bank system (20,000lts of chill water per day) for cooling ice cream mix, Curd mix, Yoghurt mix, Lassi and Butter milk.	2009-10	25 lakhs	75 Lakhs
6.	Panner production equipments	2010-11	15 Lakhs	
7.	Gulabjamun making equipments	2010-11	10 Lakhs	
8.	Bulk milk cooler 2000lts for lassi production	2010-11	20 Lakhs	
9.	Milk silos (stainless steel type)	2010-11	15 Lakhs	60 Lakhs
10.	Refrigerator vehicle for transportation ice cream and fermented milk products - 4 Nos	2011-12	95 lakhs	95 Lakes
	TOTAL		**300 Lakhs**	**300 Lakhs**

Quality assurance lab

Sl. No.	Name of the equipment	Amount in lakhs
1.	Incubator	0.35
2.	Hot air oven	0.35
3.	Water bath	0.35
4.	Auto clave	0.30
5.	Microscope	0.50
6.	Laminar air flow	0.50
7.	Refrigerator	0.35
8.	Air conditioner	0.35
9.	Analytical Balance	2.00
10.	Water Distillation Plant	0.35
11.	Glass ware	0.50
12.	Chemicals & Bacteriological media	0.50
13.	Furniture and work tables	0.50
14.	Colony counter	0.10
15.	PH, TDS meter	1.00
16.	Civil work	2.00
	Total	**10.00**

Establishment of cattle feed plant at a cost of Rs. 465.00 lakhs.

Sl. No.	ITEM			Unit cost (Rs.in Lakhs)
1	**CIVIL WORKS:** Repair & Maintenance Road repair & Fencing/Compound wall			100.00
2 A	**PLANT & MACHINERIES:** 1. Intake and cleaning section	:	10.00	
	2. Grinding Section	:	8.00	
	3. Batch (pre-weighing) section	:	25.00	
	4. Nixing section	:	5.00	
	5. Molasses Section	:	15.00	
	6. Pelleting section	:	15.00	
	7. Cooling & Screening section	:	12.00	
	8. Bagging section	:	10.00	
	9. Computerised batching system	:	10.00	
	10.Electricals & structure	:	75.00	
	11. Erection & Commissioning	:	15.00	200.00
B	1. Molasses Tank 400 MT & Accessories	:	45.00	
	2.Boiler, Pipelines & Fittings	:	15.00	
	3. Dust Collection system	:	5.00	
	4. Transformer & DG set etc.	:	86.00	101.00
C	Miscellaneous & Contingencies			64.00
	Total			**465.00**

Operational efficiency improvement for dairying in Tamilnadu components involved and their costs (Unit cost)

1. Administrative set up

A. Contractual cost for three persons

@ Rs.3.33 lakh per annum. Rs. 10 Lakhs

B. Consultancy charges Rs. 20 Lakhs

c. Office furniture and Equts. Rs. 10 Lakhs

Total Rs. 40 Lakhs

Project Cost and Financing (Rs. in Lakhs) :

S. No.	Project	2008 -09	2009 -10	2010 -11	2011 -12	Total Cost
1.	Supply of portable milking machines to members of the Society @ Rs. 0.18 Lakhs, 25 Units totally (DDD)	1.26	1.08	1.08	1.08	4.50
2.	Supply of 3 milk weighing machines to milk producers' co-operative societies @ Rs. 0.17 Lakhs/unit (DDD)	0.17	0.17	0.17	-	0.51
3.	Provision of bulk milk coolers @ Rs.30.0 Lakhs/unit, 2 units (DDD)	30.0	30.0	-	-	60.0
4.	Provision of a walk-in-cooler @ Rs. 30.0 Lakhs/unit, 2 units (DDD)	30.0	30.00	-	-	60.0
5.	Revival of 40 dormant milk producers' co-operative societies @ Rs.1.0 Lakhs/unit, 25 societies (DDD)	10.0	10.0	10.0	10.0	40.0
6.	Establishment of five khoa manufacturing units @ Rs. 0.77 Lakhs/unit (DDD)	1.54	0.77	0.77	0.77	3.85
7.	Establishment of two paneer manufacturing units @ Rs. 1.02 Lakhs/unit (DDD)	1.02	1.02	-	-	2.04
8.	Establishment of two ice-cream manufacturing units @ Rs. 1.12 Lakhs/unit (DDD)	1.12	1.12	-	-	2.24
9.	Provision of PC-based automatic milk collection stations to IDF villages and milk producers' co-operative societies @ Rs. 1.75 Lakhs/unit, 8 units (DDD)	7.00	3.50	3.50	-	14.00
10.	Quality assurance laboratory strengthening (DDD)	10.00	-	-	-	10.00
11.	Energy management system (DDD)	10.00	-	-	-	10.00
12.	Sensitization of public on dairy activities (DDD)	50.00	-	-	-	50.00
13.	Product production and delivery facilities (DDD)	70.00	75.00	60.00	95.00	300.00
14.	Operational efficiency improvement for dairying in Tamilnadu (DDD)	40.00	-	-	-	40.00
15.	Establishment of cattle feed plant (DDD)	232.50	232.50	-	-	465.00
	Total	**574.61**	**460.16**	**15.52**	**11.85**	**1062.14**

Implementation Chart of the Project:

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Supply of portable milking machines to members of the Society	7units	6 units	6 units	6 units
Provision of bulk milk coolers	1 unit	1 unit	-	-
Provision of a walk-in-cooler	1 unit	1 unit	-	-
Revival of 40 dormant milk producers' co-operative societies	10 societies	10 societies	10 societies	10 societies
Establishment of two khoa manufacturing units	1 unit	1 unit	-	-
Establishment of two paneer manufacturing units	1 unit	1 unit	-	-
Establishment of two ice-cream manufacturing units	1 unit	1 unit	-	-
Supply of 3 milk weighing machines to milk producers' co-operative societies	1 unit	1 unit	1 unit	-
Provision of PC-based automatic milk collection stations to IDF villages and milk producers' co-operative societies	4 units	2 units	2 units	-
Quality assurance laboratory strengthening	1 unit	-	-	-
Energy management system	1 unit	-	-	-
Sensitization of public on dairy activities	1 unit	-	-	-
Product production and delivery facilities	1 unit	-	-	-
Operational efficiency improvement for dairying in Tamilnadu	1 unit	-	-	-
Establishment of cattle feed plant	1 unit	-	-	-

Reporting:

The projects will be implemented by the DDD, Thiruvallur and periodical progress reports will be submitted to the concerned authorities.

IV. Training Programmes on Livestock Farming and Value-addition of Milk and Meat to the Farmers and Women SHGs under Capacity Building for Adoption of Technology and Training for Technical staff and Dairy Farmers

Abstract

The following training programmes will be conducted by the DDD, Thiruvallur to the technical staff and dairy farmers at a total cost of Rs. 31.7 Lakhs:

1. Farmers study tour
2. Skill development training for technical staff of Aavin, Thiruvallur.
3. Orientation training/workshop for milk producers' at society level

2. Budget: (Rupees in Lakhs)

II. Training Programmes by the DDD, Thiruvallur (Rs. Lakhs)

Activity	2008-2009	2009-2010	2010-2011	2011-2012	Total Cost
1. Farmers study tour @ Rs.5000/farmer, 150 farmers for 4 years	2.00	2.00	2.00	1.50	7.50
2. Skill development training for technical staff of Aavin, Thiruvallur 420 staffs @ Rs.5000/- per staff, for 4 years	6.00	5.00	5.00	5.00	21.00
3. Orientation training/workshop for milk producers' at society level Rs.20,000 per programme, 4 programmes/year, for 4 years	0.80	0.80	0.80	0.8	3.20
TOTAL BUDGET FOR TRAINING	**8.80**	**7.80**	**7.80**	**7.30**	**31.70**

Background/ Problem Focus:

The farmers are not aware of the latest technologies available in the areas of livestock farming. Value-addition of milk and meat are the thrust areas in the livestock industry.

Project Rationale:

The training programmes are planned to provide the latest technological developments in the filed of animal husbandry.

Project Strategy:

The Training Programmes will be conducted by the DDD, Thiruvallur.

Project Goals:

Capacity building in the areas of livestock farming, value-addition of milk and meat, sheep and goat rearing and hygienic meat production, processing and establishment of modern retail meat units. Enlightening the technical staff and dairy farmers on latest developments in the dairy industry through training programmes and study tours.

Project Components:

The following training programmes will be conducted by the Aavin, Thiruvallur to the technical staff and dairy farmers at a total cost of Rs. 31.70 Lakhs:

1. Farmers study tour
2. Skill development training for technical staff of DDD, Thiruvallur.
3. Orientation training/workshop for milk producers' at society level

Project Cost and Financing:

II. Training Programmes by the DDD, Thiruvallur

(Amount in Rs. Lakhs)

Activity	2008-2009	2009 -2010	2010-2011	2011-2012	Total Cost
1. Farmers study tour @ Rs.5000/farmer, 150 farmers for 4 years	2.00	2.00	2.00	1.50	7.50
2. Skill development training for technical staff of Aavin, Thiruvallur 420 staffs @ Rs.5000/- per staff, for 4 years	6.00	5.00	5.00	5.00	21.00
3. Orientation training/workshop for milk producers' at society level Rs.20,000 per programme, 4 programmes/year, for 4 years	0.80	0.80	0.80	0.8	3.20
TOTAL BUDGET FOR TRAINING	**8.80**	**7.80**	**7.80**	**7.30**	**31.70**

Implementation Chart of the Project:

1. Training Programmes by the DDD, Thiruvallur

(No. of Programmes)

Activity	2008-2009	2009 -2010	2010-2011	2011-2012	Total
1. Farmers study tour @ Rs.5000/farmer, 150 farmers for 4 years	40 farmers	40 farmers	40 farmers	30 farmers	150 farmers
2. Skill development training for technical staff of Aavin, Coimbatore 420 staffs, @ Rs.5000/- per staff, for 4 years	120 staff	100 staff	100 staff	100 staff	420 staff
3. Orientation training/workshop for milk producers' at society level Rs.20,000 per programme, 4 programmes/year, for 4 years	4 programs	4 programs	4 programs	4 programs	16 programs

Reporting:

The DDD, Thiruvallur will submit to periodical progress report on the training programmes conducted to the higher authorities.

V. Institutional Development: Strengthening the Facilities at TANUVAS Centres for the Effective Disease Surveillance, Monitoring and Extension Services in the District

A. Strengthening of Infrastructure Facilities at Institute of Food and Dairy Technology, Koduvalli

Abstract

Strengthening of IFDT, TANUVAS Centre at Koduvalli with a mobile disease investigation cum training unit @ Rs.10.00 Lakhs/unit, one unit, Van (Rs. 7 Lakhs) , Microscope (0.2 Lakhs), LCD Projector (Rs.2.5 Lakhs) and AV Aids (Rs.0.3 Lakhs) (TANUVAS)

Budget : Rs. 10.00 lakhs

Background/ Problem focus

Lacunae in existing infrastructure at IFDT, Thiruvallur for transfer of technology at the field level

Project rationale

Imparting training on scientific breeding, housing, management, nutrition, disease prevention and control to farmers to improve their livelihood.

Project strategy :

In order to alleviate the problems faced by the farmers of the district with respect to livestock IFDT will be strengthened with better infrastructure facilities so as to update the farmers with recent management techniques more effectively. The propaganda unit (van) will be used for making periodical visits to villages to collect more information about existing livestock management practices followed by farmers and giving necessary farm advisory services.

Project goals

For effective dissemination of information from Laboratory to Land.

Project components :

- Strengthening the IFDT with establishment of propaganda unit
- Field visit, collection of data regarding livestock practices and providing farm advisory services accordingly.

Project cost and financing (in Rupees)

Particulars	2008-09	2009-10	2010-11	2011-12	Total
Non- recurring					
Propaganda unit (Van)	7,00,000	-	-	-	7,00,000
LCD projector with all necessary accessories including copier	2,50,000	-	-	-	2,50,000
Audio-Visual aids	50,000	-	-	-	50,000
Total	**10,00,000**	**-**	**-**	**-**	**10,00,000**

Implementation chart of the project

2008-09 - Strengthening the IFDT with propaganda unit and audio-visual aids

2009-12 - Dissemination of latest scientific knowledge on various animal husbandry practices including breeding, housing, management, feeding and disease control to farmers of Thiruvallur district

Reporting : The Director of Research, TANUVAS, Chennai-51.

B. Empowerment of Self Help Group Women through Skill Based Livestock and Poultry Training For Income Generation

Abstract

Self help group women in Thiruvallur district are performing various agriculture and non-farming activities for their livelihood. In addition, wide spectrum of livestock and poultry farming activities provide ample opportunity for SHG members for round the year employment and income. Imparting skill based training

on livestock and poultry farming to SHG women will help the beneficiaries to undertake the enterprise in an efficient manner, thereby improving their standard of living.

Budget : 13.65 lakhs

Implementing Agency :

Tamilnadu Veterinary and Animal Sciences University

Stake Holders : 400 SHG women (5 batches of 20 SHG women in a year)

Time Frame : Four years

(Rs. in Lakhs)

Particulars	2008-09	2009-10	2010-11	2011-12	Total
Non- recurring					
Computer & Printer	1,00,000	-	-	-	1,00,000
Copier	75,000	-	-	-	75,000
Sub-total	**1,75,000**	**-**	**-**	**-**	**1,75,000**
Recurring					
Daily allowance @ Rs 200 for 100 beneficiaries	20,000	20,000	20,000	20,000	80,000
Transport and field visit (@ Rs. 500 / beneficiary)	50,000	50,000	50,000	50,000	2,00,000
Training and other printing materials	1,00,000	1,00,000	1,00,000	1,00,000	4,00,000
Honorarium to resource persons	10,000	10,000	10,000	10,000	40,000
Establishment and maintenance of integrated farming system model unit	2,00,000	50,000	50,000	50,000	3,50,000
Miscellaneous expenses	30,000	30,000	30,000	30,000	1,20,000
Sub-total	**4,10,000**	**2,60,000**	**2,60,000**	**2,60,000**	**11,90,000**
Total	**5,85,000**	**2,60,000**	**2,60,000**	**2,60,000**	**13,65,000**

Reporting

The Director of Research, TANUVAS, Chennai-51.

C. Strengthening of University Research Farm, MMC, Chennai-51

Objectives

1. To strengthen the institutional farm with following genetic groups
2. Supply of elite bull calves
3. To maintain indigenous germplasm for teaching and research
4. To increase fodder production and demonstrate fodder production practices

5. To promote fodder cultivation among the farmers for feeding of animals
6. To produce fodder seeds, slips and tree saplings

Implementation details

Sl.No.	Title of the Project	Strengthening of University Research Farms
1	**Implementing Agencies**	Tamil Nadu Veterinary and Animal Science University
2	**Location**	URF, Madhavaram, Chennai – 51
3	**Species**	Cattle
4	**Stake holders**	Farmers in Thiruvallur Distrcicts
5	**Time frame for implementation**	1 unit/ for 4 yrs
6	**Financial requirements**	
	i. Unit cost	Rs.136.70
	ii. Total cost	Rs.136.70

Livestock Components

S. No	Present stock		Proposed (Adult)		
	Species/Breed	Total No.	Species/Breed	Total No.	
1.	Cattle (6 breeds)	118	Cattle	M	F
			Umblachery	2	10
2	Goat (2 breeds)	60	Burgur	2	10
3.	Pig (1 breed)	70	Ongole	-	10
4.	Poultry (11 breeds)	235	Jersey Cross	-	10
5.	Rabbit (3 breeds)	27			

Livestock Component

Particulars	I year	II year	III year	IV year	Total (Rs in lakhs)
I. Non recurring					
i. Purchase of animals	8.60	-	-	-	8.60
ii. Farm machinery	2.50	-	-	-	2.50
iii. Renovation of animal sheds	2.00	-	-	-	2.0
Total (NR)	**13.10**	**-**	**-**	**-**	**13.10**
II. Recurring					
i. Transport of animals	2.00	-	-	-	2.00
ii. Animal maintenance	1.65	1.82	2.0	2.20	10.09
iii. Cost of feed	8.83	9.71	10.68	11.75	53.90
iv. Paddy straw	1.00	1.10	1.21	1.33	6.10
v. Cost of medicine	0.25	0.25	0.25	0.25	1.25
vi. Other contingencies	0.50	0.50	0.50	0.50	2.50
Total (R)	**14.23**	**13.38**	**14.64**	**16.03**	**58.28**
Grand total	**27.33**	**13.38**	**14.64**	**16.03**	**71.38**

Fodder Components

Total area : 35 acres

LAND UTILIZATION :

S. No.	Present status		Proposed	
	Content	Area	Content	Area
	Fodder cultivation			
i	Irrigated	25.0	Irrigated	25.0
ii	Unutilized land	10.0	Area to be developed for fodder cultivation	10.0
	Total	**35.0**		**35.0**

Fodder development

Particulars	I year	II year	III year	IV year	Total (Rs in lakhs)
I. Non recurring					
i. Bore well (2 Nos.)	3.00	-	-	-	3.00
ii. Solar fencing (2 km)	3.00	-	-	-	3.00
iii. PVC pipelines for irrigation	1.00	-	-	-	1.00
iv. Double layered black tar road (2 km)	28.00	-	-	-	28.00
v. Sprinkler irrigation	2.00	-	-	-	2.00
Total (NR)	**37.00**	**-**	**-**	**-**	**37.00**
II. Recurring					
i. Leveling, Ploughing and land preparation	1.00	-	-	-	1.00
ii. Wages (10)	4.96	5.46	6.00	6.60	30.28
iii. Slips and seedlings	2.50	-	-	-	2.50
iv. fertilizer	0.20	0.20	0.20	0.20	1.00
v. Others	0.25	0.25	0.25	0.25	1.25
vi. Other contingencies	0.50	0.50	0.50	0.50	2.50
Total (R)	**8.91**	**5.91**	**6.45**	**7.05**	**28.32**
Grand total	**45.91**	**5.91**	**6.45**	**7.05**	**65.32**

Reporting - The Director of Research, TANUVAS, Chennai-51.

D. Establishment of Livestock and Poultry Entrepreneurship Development Complex

Abstract

Tamil Nadu Veterinary and Animal Sciences University proposes to establish an entrepreneurship development complex to meet the long felt need and serve the

stake holders better in terms of knowledge updation technology, transfer for market oriented precision farming and to create business opportunities for the producer for direct marketing of their produce.

Budget

Sl. No.	Content	Budget Rs. in Lakhs
1	Non-Recurring Contingencies	356.50
2	Recurring Contingencies	95.90
	Total	**452.40**

Back Ground / Problem Focus

Such growth can be possible only by rapid adoption of technology suiting the present needs by addressing field problems. The production process also need to be harnessed to see that right things are produced in right place at right time. Lack of market information eats away the margin money of farmers because of market surplus. Therefore adoption of new technology to improve productivity is not rewarding the farmer.

Project rationale

It is high time to mould individual livestock and poultry farmers into entrepreneurs by knowledge updation in their area of interest and exposing them to new technological development in quality production, post product processing and to equip him to produce market demanding quality products for domestic and export market.

Project strategy

- Improve farm productivity and impact market orientation to production via effective extension and knowledge transfer and Increase small and medium investments in agriculture.

Project goals

- Knowledge updation of livestock and poultry farmers to improve production efficiency in the supply chain system.
- Orientation on marketing trend to develop quality consciousness in each and every step of production.

Project components

- State Level Livestock and Poultry Entrepreneurial Training Centre

  Location: Poultry Research Station, Nandanam, Chennai.
- Experiential Learning Facilities

  Location :PRS, Nandanam and LRS, Kattupakkam.
- Product Technology Laboratory

  Location :Livestock Research Station, Kattupakkam.
- Project Repository and Technology Incubation Centre

  Location : Poultry Research Station, Nandanam
- Livestock Market Intelligence and Information Cell

  Location :Poultry Research Station, Nandanam
- Centre for developing value added livestock and poultry products

  Location :Livestock Research Station, Kattupakkam

PROJECT COST AND FINANCING

A. Non-Recurring

Sl.No.	Content	Budget Rs. in Lakhs
1	State Level Livestock and Poultry Entrepreneurial Training Centre	86.00
2	Experiential Learning Facilities	78.00
3	Product Technology Laboratory	75.00
4	Project Repository and Technology Incubation Centre	18.00
5	Livestock Market Intelligence and Information Cell	32.00
6	Centre for developing value added livestock and poultry products	67.50
	TOTAL	**356.50**

B. Recurring

Sl. No.	Content	BUDGET Rs. IN LAKHS			Grand Total
		1st year	2nd year	3rd year	
1	Contractual Services	15.95	17.00	17.80	***50.75***
2	Feed and Fodder for Livestock	7.35	9.05	11.00	27.40
3	Training Cost	4.00	4.25	4.50	***12.75***
4	Vehicle fuel charges	1.30	1.70	2.00	***5.00***
	GRAND TOTAL	**28.60**	**32.00**	**35.30**	**95.90**

TOTAL OUTLAY OF THE PROJECT (A+B) – Rs.452.40 LAKHS.

Implementation chart of the project

I year

- Site selection
- Civil works for Establishment of Entrepreneurship Training Centre
- Construction of animal houses and poultry shed for establishment of model units.
- Construction of product technology laboratory.
- Civil works for project repository and technology incubation centre.
- Purchase of equipments for all infrastructure as mentioned above.
- Purchase of furniture and accessories.

II year

- Civil works for livestock market intelligence and information cell.
- Construction of meat technology laboratory, meat fabrication laboratory, Milk processing unit, package and sealing unit and rendering and effluent treatment facility.
- Establish LAN, WAN and satellite communication alongwith purchase of computers and mobile sets.
- Purchase of equipments for slaughter house, meat and milk processing, packaging, rendering and mini effluent treatment plant.
- Environmental of beneficiaries for different entrepreneurial training.
- Purchase of livestock and poultry for different model units.
- Provide hands on training to aspiring entrepreneurs on product preparation.
- Make operational of project repository and technology incubation centre.

III year

- Continue offering specialized trainings to interested beneficiaries.
- Provide hands on training in latest technologies in animal avocation and product manufacture.
- Facilitate entrepreneurs to venture into product preparation.
- Provide projects for financial assistance.
- Provide market intelligence to entrepreneurs.
- Full fledged operation of all components in coordination to mould new entrepreneurs.

Reporting

The Director of Research, TANUVAS, Chennai-51.

E. Improving the productivity of sheep through introduction of exotic germplasm – Dorper

Abstract

It is proposed to develop a cross bred goat with improved productivity by introducing Dorper breed of sheep. Dorper is a South African mutton breed of sheep. The breed shows exceptional adoptability, hardiness, reproductive rate and growth performance as well as good mothering ability. As the performance of this exotic breed need to be studied in our agro climatic conditions. It is proposed take up a pilot research project by importing Dorper embryos from recognized breeders abroad.

Budget

Sl. No.	Content	Budget Rs. in Lakhs
1	Cost of Personnel	7.55
2.	Non-Recurring Contingencies	105.20
3.	Recurring Contingencies	27.65
	TOTAL OUTLAY	**140.40**

Back Ground / Problem Focused

The important strategies for augmenting sheep production and productivity are

1. Selective breeding of sheep in their native tract through network programme or open nucleus breeding.
2. Micro level monitoring of proper deworming, dipping and vaccination to improve production.
3. Improving the economic traits for increased productive and reproductive performance.
4. Developing hybrids by introduction of suitable exotic germplasm for a leap in economic traits.

Project Rationale

The concept of developing ‘hybrid sheep’ can be made successful only by introducing a suitable exotic germplasm with overwhelming performance for crossing with native breeds. In this context, a good exotic breed from a tropical country needs to be identified.

Project Strategy

The pure lambs of Dorper thus obtained will be raised under standard management conditions with technical advice from germplasm suppliers. Initially it is proposed to purchase 200 embryos for each centre from a well established breeder at the rate of US$ 500 / embryo with a minimum success rate of 40%. About 40 pure Dorper lambs will be obtained through ET. Out of 80 lambs 40 will be ewe lambs at each location which will form the intital nucleus stock for developing breeder flock. The surplus rams apart from those used for breeding the above flock will be raised and trained semen collection. The semen collected will be analysed for quality and cryo -preserved for cross breeding involving local breeds of sheep for developing a hybrid sheep.

Project Goals

1. To study the performance of pure bred Dorper sheep obtained through proposed embryo transfer technology under agro climatic conditions of Tamil Nadu.
2. To attempt cross breeding of Dorper with recognized breeds of Tamil Nadu viz., Madras Red and Mecheri.
3. To study the economic advantage of improved productivity through cross breeding of sheep.
4. Develop a hybrid sheep for distribution to sheep farmers for establishing commercially viable sheep farms in the state.

Project Components

This project will be carried out at Livestock Research Station, Kattupakkam and Mecheri Sheep Research Station, Pottaneri where nucleus stock of Madras Red and Mecheri are maintained respectively. Thus the main project components involves import of Dorper embryos from abroad and there propagation as pure breeds through embryo transfer. The next crucial component is cross breeding with inbred population of Madras Red and Mecheri to exploit hybrid vigor.

Project Cost And Financing

A. Cost of Personnel

Sl. No.	Content	Budget Rs. in Lakhs				
		I year	II year	III year	IV year	Total
1	Engaging one SRF in each location @ total emolument of Rs.15,000/ per month	1.80	1.85	1.90	2.00	***7.55***

B. Non-Recurring

Sl. No.	Content	1st Year Budget Rs. in Lakhs
1	Housing facility to accommodate exotic germplasm and its followers.	
	a) Lamb rearing facility of 600 sqft. @ Rs.600 / sqft.	6.00
	b) Breeder flock housing facility of 1200 sqft @ Rs.600/sqft.	7.20
2.	Embryos to be imported @ 500 US$ / embryo for 400 embryos @ Rs.45/1US$.	90.00
3.	Equipments-Feeders, waterers, weighing balance etc.	2.00
	Total	**105.20**

C. Recurring

Sl. No.	Content	Budget Rs. in Lakhs				
		I year	II year	III year	IV year	Total
1	Cost of feeding proposed pure exotic germplasm and its followers @ 500 G / lamb and 1.0 kg for grower and 1.5 kg for adult @ Rs.10 / kg of concentrate feed.	3.50	4.50	5.50	7.00	***20.50***
2	Cost of medicine and prophylaxis and micro nutrients @ Rs.200/- animal per year.	0.20	0.40	0.60	0.90	**2.10**
3	Contingencies for Embryo transfer utilizing the available facilities at Madhavaram.	1.00	1.00	0	0	***2.00***
4	Technical charges for borrowed technologies.	1.00	1.00	0	0	***2.00***
5	Office contingencies	0.35	0.35	0.35	0	***1.05***
	Total	**6.05**	**7.25**	**6.45**	**7.90**	**27.65**
	Total Outlay for each Centre (A+B+C)					**140.40**

Total Budget Abstract for two centres (Rs.in lakhs)

Sl.No	Particulars	I year	II year	III Year	*I*V year	Total
1	Cost of personnel	1.80	1.85	1.90	2.00	7.55
2	Non- Recurring	105.20	-	-	-	105.20
3	Recurring	6.05	7.25	6.45	7.90	27.65
Total		**113.05**	**9.10**	**8.35**	**9.90**	**140.40**

TOTAL OUT LAY = 199.90 LAKHS

IMPLEMENTATION CHART

I year

- Construction of animal sheds.
- Import of embryos
- Identification of health surrogate ewes to bear the embryos.
- First stage of embryo transfer in identified ewes.
- Raising of pure Dorper lambs
- Study early economic traits.

II year

- Second stage embryo transfer in identified ewes.
- Raising of pure Dorper lambs
- Segregation of ram lambs and ewe lambs.
- Raising of rams for semen collection.
- Forming breeding unit of pure Dorper ewes.
- Study economic traits and growth curve.

III year

- Obtaining F, generation from pure Dorper breeder flock.
- Raising a nucleus stock of minimum 100 ewes for further breeding.
- Study productive and reproductive traits of pure Dorper.
- Collection of semen from pure Dorper for processing and preservation.
- Attempt cross breeding with native sheep to develop a synthetic.

IV year

- Study the performance of crossbreds in F1 generation in terms of hybrid vigor.
- Evaluate economic traits of cross breds.
- Stabilize the population of pure Dorper.
- Dissemination of pure Dorper semen for cross breeding in farmers, flocks.

Reporting

The Director of Research, TANUVAS, Chennai-51.

F. Strengthening the Infrastructure for Central University Laboratory

The details of the proposed space allotment are hereunder: GROUND FLOOR

S.No.	Dept/ unit	Wing	Dimensions	Total area	False ceiling	Glass aluminum partition
			(Sq.ft.)			
1.	Administrative block	Southern	60' x 60'	3600	1000	600
2.	Bacteriology	Northern	60' x 60'	3600	2000	1000
3.	University Library	Eastern	30' x 60'	1800	1800	1800
4.	Instrumentation division	Eastern	30' x 60'	1800	1800	1800

FIRST FLOOR

1.	Viral Vaccines	Southern	60' x 60'	3600	2000	1000
2.	Pathology and Parasitology	Northern	60' x 60'	3600	2500	1000
3.	Virology, Serology and Molecular biology	Eastern	80' x 60'	4800	2500	1500

SECOND FLOOR

1.	Bacterial vaccines	Southern	60' x 60'	3600	2000	1000
2.	Trainee laboratory	Northern	60' x 60'	3600	2000	-
3.	Seminar Hall	Eastern	80' x 60'	4800	3600	3600

Details of infrastructure to be created:

Electrical work

S.No.	Item	Amount Rs. (in Lakhs)
1.	Laboratory ambience control system	67.20

Civil work

1.	Biosafety provisions	**278.50**

Equipment	Type	Number	Cost (Rs.)
Autoclave	--	1	**2,00,000**
Hot air oven	--	1	**3,00,000**
B.O.D. Incubator	--	1	**2,00,000**
Freeze drier	--	1	**7,50,000**
High speed Refrigerated Centrifuge	--	1	**15,00,000**
Deep freezer	-40o C	1	**3,00,000**
Waterbath	--	1	**1,00,000**
Refrigerator	--	2	**30,000**
Total			**33,80,000**

Recurring expenditure

S.No	Item	2008-2009
1	Chemicals/Biologicals	***3.00***
2	Plastic and Glasswares	***3.50***
3	Animals	**-**
4.	Feed and maintenance of contractual labourers	***7.70***
5.	Training	***2.00***
6.	Travelling Allowance and logistics	***1.00***
7.	Stationeries & other contingencies	***0.80***
	Total	***18.00***

Grand total - Rs. 397.50 LAKHS

G. Development of an Inactivated Vaccine for Avian Infectious Bronchitis

Abstract

Infectious Bronchitis (IB) is a disease that mainly affects chickens. The Infectious Bronchitis virus (IBV), a Coronavirus, targets not only the respiratory tract but also the uro-genital tract. The virus can spread to different organs throughout the chicken. Prevention of IB is best achieved through an effective biosecurity program. As a second line of defense, chickens in IB problem areas should be vaccinated. Based on the above reasons this project was formulated considering the need for developing an indigenous potent vaccine by incorporating the local IBV isolate with the following objectives.

Objectives

(a) Isolation and characterization of IB virus from field outbreaks in Tamil Nadu
(b) Development of an inactivated vaccine using the selected candidate virus strain
(c) Conducting experimental and field trials and validation of vaccine.

Problem focused

By undertaking this project, a safe and potent vaccine will be developed for the use in poultry thereby minimizing the economic loss to the poultry farmers. The technology will be transferred to suitable Biological Institutions for large-scale production and supply to field use.

Implementation chart:

I Year

(a) Collection of samples from outbreaks of Infectious Bronchitis in Tamil Nadu

(b) Isolation of IB virus from the suspected samples using chicken embryos

(c) Characterization of the IBV isolates

II Year

(a) Selection of the candidate virus.

(b) Propagation and titration of the virus in chicken embryos.

(c) Selection of an appropriate inactivating agent and inactivation kinetic studies

(d) Selection of an appropriate adjuvant

(e) Seroconversion studies of the inactivated vaccine developed

III Year

(a) Quality control studies such as sterility, safety and potency tests based on OIE 2004

(b) Field level trials of the inactivated vaccine developed.

(c) Validation of the vaccine developed.

Project Components (Rs.27.0 Lakhs)

1. Refrigerated centrifuge - Rs.6.0 lakhs
2. Electronic balance - Rs.2.0 lakhs
3. Gel documentation system - Rs.6.0 lakhs
4. Deep freezer (-860C) - Rs.8.0 lakhs
5. Class II Laminar air flow - Rs.5.0 lakhs

Duration

Sl.No.	Description	(Rs. in lakhs)			
		1st Year	2nd Year	3rd Year	Total
1.	Contractual Expenditure on sample collection & processing, maintenance of cell culture facility, molecular virology facility and other laboratory facility	3.00	3.00	3.00	9.00
2.	Consumables, Glassware, Chemicals, Biologicals, Diagnostic kits and Purchase of SPF eggs	5.00	5.00	5.00	15.00
3.	Purchase and maintenance of experimental birds for quality control studies	2.00	2.00	2.00	6.00

4.	Purchase of New equipments required for development of inactivated IB Vaccine	27.00	-	-	27.00
5.	AMC and Contingencies	2.00	2.00	2.00	6.00
6.	Traveling Allowance	1.00	1.00	1.00	3.00
Total		**40.00**	**13.00**	**13.00**	**66.00**

Outcome of the project

The outcome of the research project is the development of a safe, potent and efficacious inactivated Infectious Bronchitis Virus vaccine to protect the birds against infectious bronchitis which inturn is beneficial to the farming community.

Reporting

The Director of Research, TANUVAS, Chennai-51.

TABLE 42: BUDGET PROPOSAL – FISHERIES SECTOR -2008 - 2012

Sl. No.	Components	Implementing Agency	Unit cost Rs.in lakh)	Total units	2008-09		2009-10		2010-11		2011-12		Total cost (Rs.in lakh)
					Units	cost	Units	cost	Units	cost	Units	cost	
1	Private Participation for seed rearing	Fisheries Department	5.00	4	1	5.00	1	5.00	1.00	5.00	1.00	5.00	20.00
2	Improving the fishing efficiency through supply of gill net	Fisheries Department	0.05	300	70	3.50	100	5.00	100.00	5.00	30.00	1.50	15.00
3	Farmers training	Fisheries Department	0.10	100	25	2.50	25	2.50	25.00	2.50	25.00	2.50	10.00
4	Modern fish stall	TNFDC	10.00	1	1	10.00							10.00
5	Modernization of FRP boats with OBM (50% subsidy)	Fisheries Department	2.00	50	20	40.00	10	20.00	10	20.00	10	20.00	100.00
6	Sea ranching	Fisheries Department	7.00	8	2	14.00	2	14.00	2.00	14.00	2.00	14.00	56.00
7	Artificial habitats	TAFCOFED	15.00	4	1	15.00	1	15.00	1.00	15.00	1.00	15.00	60.00
8	Supply of fish transport facilities (Moped with ice box 50% subsidy)	TAFCOFED	0.15	30	8	1.20	8	1.20	8.00	1.20	6.00	0.90	4.50
	Fisheries - Total					**91.20**		**62.70**		**62.70**		**58.90**	**275.50**
1	Strengthening of Fisheries Research and Extension centre	TANUVAS	50.00	1	1	50.00							50.00
2	Capacity building - Farmers Training	TANUVAS	0.10	100	25	2.50	25	2.50	25.00	2.50	25.00	2.50	10.00
3	Strengthening of Fish diseases diagnostic laboratory	TANUVAS	40.00	1	1	40.00							40.00
	TANUVAS - Total					**92.50**		**2.50**		**2.50**		**2.50**	**100.00**
	Grand - Total					**183.70**		**65.20**		**65.20**		**61.40**	**375.50**

V. Project

1. Private Participation for Seed rearing (extending 50% subsidy)

Abstract

The fish farmers at Thiruvallur district are progressive farmers and they adopt modern technologies in fish seed production. The resources can be utilised to expand the inland fisheries activities in the district. The potential can also be tapped to cater to the need of other districts. Hence, it is proposed to encourage private participation in fish seed rearing by extending subsidy assistance at 50% of the capital cost with a production capacity of 10 million early fry or three million fingerlings. The total unit cost will be Rs. 10 lakh. The detail of unit cost are given below:

Budget : Rs.20.00 lakhs

Background / Problem focus

- Inadequate infrastructure development causing problems to attain self sufficiency in seed production
- Fish seed production / Rearing is not adequate. The fish seed demand is mostly met Import from other Districts / States near by.
- Fish seed production / rearing in private sector has not been encouraged .
- Fish culture activity shall be encouraged by extending 50% subsidy on inputs.

Project Rationale

- Infrastructure development to attain self sufficiency in seed production
- Fish seed production / rearing in private sector should be encouraged to minimize import from other States.
- Fish culture activity shall be encouraged by extending 50% subsidy on inputs.

Project Strategy

Mismatch of major carp breeding season and water availability period in tanks. Inadequate infrastructure facilities for seed rearing and fish marketing. So seed of carps in enhance.

Project Goals

- To increase good quality fish Seed and fish production capacity
- To expand fish culture in hitherto unutilized water bodies.
- To produced 10 lakh crab seeds every year.

Project components

Repair / Renovation of Carp nurseries, Provision of bore well, Water supply arrangement, Crap seeds and 50% subsidy.

Project cost and financing:

Unit cost	-	5 .00 lakhs
a. Subsidy for pond renovation per ha.	-	2,00,000.00
c. Pumps and motor	-	50,000.00
d. Nursery pond preparation	-	2,00,000.00
e. Broodstock preparation	-	50,000.00
Total	**-**	**5,00,000.00**
Total 5,00,000 x 4	**-**	**20,00,000.00**

Implementation chart of the project

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Rearing of seeds	√	√	√	√
2.	Completion of civil works	√	√	√	√

Reporting

The project will be implemented by Department of Fisheries.

2. To provide subsidy for the purchase of Gill net.

Abstract

The project aims at supplying gill nets to the fish farmers. The fishermen will procure the gill net at 50% subsidy so as to utilize the facility for enhancing fish cater.

Budget : Rs. 15.00 lakhs

Background / Problem focus

So far the fisher are not utilize fully gill net. So the have will be encourage with gill net with 50% subsidy

Project Rationale

The fishermen will be able to exploit the fishery resources of Poondi reservoir.

Project Strategy

During the first year 75 units will be assisted similarly for the 2nd and subsequent years.

Project Goals

To improvement of Fish catch efficiency.

Project cost and financing

Sl. No.	Particulars	Amount (Rs. in lakhs)
1.	Subsidy for the purchase of one gillnet @ Rs.5000/- each Total 200 nets to be purchase = Rs.5000 x 300 = 15,00,000/-	15.00

Implementation chart of the project

Sl.No.	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Identification of fish farmers	√			
2.	Purchase of gill net -		√	√	

Reporting

The project will be implemented by Department of Fisheries.

3. Farmers training

Abstract

Thiruvallur district has vast potential for inland fish culture. The technological advancement need to be percolated at grass root level for which farmers training is required. The facilities available at Poondi reservoir shall be utilised for importing training. The proposed training programme shall be designed as sandwiched programme with theory and practical sessions on different techniques such as scientific fish culture practices, ornamental fish breeding, hygienic handling and marketing, cage culture practices As field exposoure trainees shall be taken for field visit to the neighbouring states. A total number of 100 farmers can be trained at an estimated cost of Rs.10 lakh @ of Rs.10,000 /-per trainee.

Budget : Rs. 10.00 lakks

Background / Problem focus

The proposed training programme shall be designed as sandwiched programme with theory and practical sessions on different techniques such as scientific fish culture practices, ornamental fish breeding, hygienic handling and marketing, cage culture practices As field exposoure trainees shall be taken for field visit to the neighbouring states.

Project Rationale

Imparting training in fish culture practices would generate employment opportunities and make them self reliant and socially and economically empowered.

Project Strategy

To conduct training programme on freshwater fish culture for the farmers so as to improve their socio economic conditions.

Project goals

To conduct 100 training programmes on freshwater fish culture

To conduct follow up studies.

Project components

- Composite fish culture
- Ornamental fish culture
- Integrated fish farming
- Cat fish culture
- Economies and Marketing

Project cost and financing

S.No.	Particulars	App. Budget
1.	Stipend@ Rs.150/ participant for 25 participants (3days)	Rs. 3750
2.	Extension materials	Rs. 3000
3.	Miscellaneous + Study tour – farm visit	Rs. 3250
Total		**Rs. 10000**

Reporting

The progress of the project will be reported to the concerned authorities quarterly

4. Modern Fish stall

Abstract

Retail market will have 20-25 fish stalls where facilities like ice boxes, crates,

Sl.No	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Identification of villages	√			
2.	Selection of participants		√		
3.	Conducting training programmes			√	
4.	Evaluation of training programmes				√

electronic balance and dressing table are provided along with electricity, draining and water facilities

Budget : Rs.10.00 lakhs

Background / Problem focus

The retail market at present are poorly maintained. The essential market infrastructure like electricity, water, drainage and civic amenities in most of the retail fish markets are inadequate

Project rationale

This is the last link in the marketing channel. Consumers' satisfaction is guaranteed at this retail outlet.

Project strategy

The retail market will be located in district headquarters that can serve the laver section.

Project Goals

- Providing quality fishes at reasonable price.
- To enhance revenue for the fisher folk engaged in fish marketing

Project components

Fish stall, ice boxes, crates, electronic balance, water facilities, fishermen, agents, representation.

Project cost and financing

Budget : Rs. 10.00 lakh

S.No	Details	Cost (in lakh)
1.	Land development for 750 Sq.ft. including water facilities, compound wall, drainage grill gates and flooring etc.	2.00
2.	Fabrication and Installation of modern fish stall (Alco panel structure)	6.00
3.	Fish storage cabin	1.00
4.	Glass display cabinet	1.00
	Total	**10.00**

Implementation chart of the project

The retail markets will be implemented in the first year itself.

Reporting

All the retail fish markets will be monitored by the Dept. of Fisheries

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Construction of retail market	√	√	√	√
2.	Purchase of ice boxes, crates, electronic balance, table etc.	√	√	√	√
3.	Other facilities	√	√	√	√

5. Strengthening of fisheries research and extension centre at Madhavaram (TANUVAS)

Abstract:

Fisheries research and extension centre is functioning with an objective of developing new technologies for fish culture and providing training to the farmers of Thiruvallur-Chennai and Vellore districts. Hence the establishment of demonstration units and disease diagnosis lab will help the farmers.The extension unit/centre is to impart training programmes in different trades of fisheries. This unit/centre will also conduct regular follow up studies to know the problems of farmers in the adoption of technologies. The programme will be undertaken by Tamilnadu Veterinary and Animal Sciences University, at Madhavaram.

Budget : Rs. 50 lakh

Back ground / problem focus

The major objective of the establishment of this Extension Centre is to impart training programmes in different trades of fisheries. The training programmes enabling the farming and fishing communities to obtain maximum benefits. Regular follow-up

studies will also be carried out to know the problems in the adoption of technologies by this Fisheries Extension Centre.

Project rationale

The proposed Extension Centre will take up developmental activities in Tamilnadu which will play a major role in the upliftment of the standard of fisherfolk and ruralfolk. The people who receive the training will be encouraged to take up self-employment ventures in fisheries related activities. The proposed Fisheries Extension Centre will extend all types of assistance to the participants to establish their own self-employment units.

Project strategy

To impart training for conducting follow up studies

Project goals.

1. To conduct training programmes on fisheries
2. To organise demonstration on fisheries
3. To conduct extension activities

Project components

To organise and conduct the following

a. Training
b. Demonstration
c. On the spot guidance
d. Consultancy
e. Follow up studies
f. Exhibition

Project cost and financing

S.No	Items	Budget (Rs. In lakh)
1.	Repair and innovation of existing fish cement tanks	8.00
2.	Establishment of hatchery unit	10.00
3.	Contingences - travel, management, hire charges etc.	20.00
4.	Training equipment	5.00
5.	Miscellaneous (net, fish breeder etc.)	7.00
Total		**50.00**

Implementation chart of the project

I year

a) Appointment of Project assistant

b) Establishment of extension unit / centre

II year

Conduct of training programmes, demonstrations and exhibitions on various trades of fisheries.

III year

Conduct of training programmes, demonstrations and exhibitions on various trades of fisheries.

IV year

Conduct of training programmes, demonstrations and exhibitions on various trades of fisheries.

Reporting

The progress reports / Annaual report of the project will be reported to the concerned authorities.

6. Modernization of FRP Boats fitted with OBM (50% subsidy)

Abstract

There are 2000 motorized FRP crafts engaged in fishing operation. The inshore caters has depleted since last decade due to intensification of inshore crafts, it has to be diversified in to gill net and long line fishing to reduce thrust on inshore fishery. There is very good potential of deep sea resources such as Tuna in Thiruvallur district which is under exploited. The present motorized crafts have minimum facilities to exploit the deep sea resources such as tuna ,further they don't have any advanced communication system. To overcome this lacuna and exploitation of tuna resources, about 50 medium range FRP boats may be introduced with modern fishing instruments, communication system to exploit the deep sea tuna resources by providing 50% subsidy. This scheme will extend for the period of four years. The actual unit cost of medium range (42ft LOA) FRP boat is about Rs.4.0 Lakh. It is expected that in addition to the present exploitation, there will be additionalt 200 tonnes of tuna that will be exploited by FRP boats through this scheme. The scheme will be implemented and monitored by Fisheries Department.

Budget : Rs 100.00 lakh (50 units)

Background / Problem focus

Develop infrastructure facilities for free harvest in deep sea to increase fish production.

Project Rationale

Developing infrastructure facilities to increase fish production in reservoirs.

Project Strategy

Increasing fish production through development of basic infrastructure facilities in order to increase fish production.

Project Goals

To strengthens the existing FRP boats for expoliting deep sea resources.

- To enhance the caters yield from sea

Project components

Out board engines (OBM) supply modernizing the existing FRPs

Project cost and financing

a.	**Subsidy on the cost of OBM**	**-**	**Rs. 30,000/-**
b	**Subsidy on the craft improvement**	**-**	**Rs. 20,000/-**
c	**Subsidy on the cost of navigation equipments**	**-**	**Rs.1,50,000/-**
	Total	**-**	**Rs.2,00,000/-**
Unit cost		:	Rs.2.00 lakh
Total No.of Units.		:	50
Total cost		:	100 Lakhs ,(Subsidized cost at 50%)

Implementation chart of the project

The project will be implemented by the Department of Fisheries.

S. No	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1.	Identification of boat owners	√			
2.	Identification of suitable FRP boats	√			
3.	Procurement of advanced modern equipments for communicate / fishing off shop	√	√	√	√

Reporting :

The progress of the project will be reported periodically.

7. Capacity Building

Abstract

To conduct training programmes on freshwater fish culture technologies for the adoption. The training programmes will also include various demonstrations on fish culture activities. Follow up study will be conducted. To improve the socio economic conditions of farmers the training programme is to be conducted

Budget : Rs. 10.00 lakhs

Background / Problem focus

The inland fisheries sector of Tamilnadu is endowed with a total water spread area of 3,18,790 ha with as major irrigation and long seasonal tanks (97,690 ha), short seasonal tanks/ponds (1,58,100 ha), estuaries and backwaters (56,000 ha) derelict waters, swamps etc. (7,000 ha). While these resources have a potential to yield 2.46 lakhs tonnes of fish, the present yield is only 1.14 lakhs tonnes. About 60% cultivable area has been brought under culture practices only by creating adequate awareness among general public and fishermen

Project Rationale

Imparting training in such fish culture practices would generate employment opportunities and make them self reliant and socially and economically empowered.

Project Strategy

To conduct training programme on freshwater fish culture for the farmers so as to improve their socio economic conditions.

Project goals

- To conduct 100 training programmes on freshwater fish culture
- To conduct follow up studies.

Project components

- Composite fish culture
- Ornamental fish culture

- Integrated fish farming
- Cat fish culture
- Economies and Marketing

Project cost and financing

S.No.	Particulars	App. Budget
1.	Stipend@ Rs. 50/ participant for 25 participants/ 3days	**Rs. 10000**
2.	Extension materials	
3.	Miscellaneous	
Total cost 10000 x 100		**10 lakhs**

Implementation of the project

Sl.No.	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1.	Identification of villages	√	√	√	√
2.	Selection of participants	√	√	√	√
3.	Conducting training programmes	√	√	√	√
4.	Evaluation of training programmes	√	√	√	√

Reporting

The progress of the project will be reported to the concerned authorities quarterly

8. Sea Ranching

Abstract :

There is heavy trust in fishery due to various reasons lead to depletion of resources Year after year in the inshore belt of the District. To enhance the fish and shell fish production for the sustainability of the resources, sea ranching is necessary to be carried out. Crabs, lobsters, shrimps and among fish cobia, grouper and other will be attempted.

Budget : Rs. 56.00 lakhs

Project goal/Strategy/background / problem focus

- ❖ To replenish the wild marine stock for stocking the shrimp and crab at and optimal size to manage to grow and multiply.
- ❖ To enhance prawn and crab stock from depletion
- ❖ To assist the fishermen for profitable fish catch

Project cost and financing :

Unit cost : Rs.7.00 lakh/million

Total No.of Units. : 8

Shrimp seeds

Unit cost : Rs. 2,60 lakhs / one million prawn seeds

Total No.of Units : 20 units

Total cost : Rs. 52.00 lakhs

Crab seeds

Unit cost : Rs. 2.00 lakhs / one lakh seeds

Total No.of Units : 2 units

Total cost : Rs. 4.00 lakhs

Implementation Chart of the project

S.No	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1.	Identification of area	√			
2.	Rearing enclosures		√	√	
3.	Rearing of brood stock and seed production		√	√	
4.	Sea ranching				

Reporting

Department of Fisheries in coordinate with Tamilnadu Veterinary and Animal Sciences University/CIBA/CMFRI

9. Deployment of Artificial Fish Habitats

Abstract

In view of depleting fish stock and diversified biodiversity, FAD has to be strengthened. Fish species at the verge of stock depletion have to be governed through FADs.. FADs with community involvement especially in the coastal region would help implementing the programme in a successful way.

Budget : Rs. 60.00 lakhs

Background / problem focus

Fish aggregating device facilitates concentration of various fish species and invertebrate organisms to harbour in a particular locality like coral reef base, heaped boulders, sea grass bed, and will serve as a feeding and spawning ground. In the event of removal of such bases from the natural ecosystem, the fish species scatter themselves for want of protection and threat from predatory fishes and aquatic animals. Dredging of sea bottom constantly would drive away the fish population from one territory to another territory. Blasting of the sea and dynamite fishing has caused enormous threat to the fish-aggregating locality in the past and they have to be rehabilitated by artificial means to sustain the fishery and conserving from destruction. Fish aggregation devices would help fish to find their feeding and breeding grounds for prolifying themselves easily. So FADs are novel ways to make the distant fish species to be attracted towards an artificial device. This would also help the fisher folk to involve themselves collectively to rejuvenate the coastal fauna and flora to meet out their fishing needs and livelihood.

Project rationale

- To enrich the inshore waters with diversified fish species
- To help the fishermen for good catch of fish
- To provide a protected ground for various fauna and flora
- To retain the semi natural ecosystem

Project strategy

To implement the programme of community FADs in all the coastal districts to support marine fishery and stock retention.

Project goals

1. To identify suitable ground along the coast to install FADs like concrete structures, boulders, and other fibre reinforced structures without polluting the coastal ecosystem.
2. To give awareness to the fishermen and coastal fisher folk about the value of FADs to implement the programme with fishermen participation for community development.

Project components

Installation of FADs of various shapes and with different components like stone pitchments, barrels, tyres, hollow material and dead corals

Project cost and financing.

Sl.No.	Components	Rs in lakhs
1.	An FAD of 10 metre diameter and 5 mt.height made up of concrete or FRP materials	5.00
2.	Anchorage	5.00
3.	Floor mast	1.50
4.	Training fisher folk	1.00
5.	Management cost (coolie wages, fuel, miscellaneous cost)	1.50
	Total	**15.00**
	Total cost 15 x 4	**60 lakhs**

Project implementation chart

Sl. No.	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1.	Identification of suitable coastal site for installation	√			
2.	Design and fabrication of FADs		√		
3.	Installation			√	
4.	Training			√	√
5.	Sampling and fish catch		√	√	√

Reporting

The efficiency of FADs kept installed in the coast will be periodically monitored and aggregation of fish species will be observed and reported the same to the authorities through fisherfolk with community involvement.aggregation of fish species will be observed and reported the same to the authorities through fisherfolk with community involvement.

10. Supply of Fish Transporting Facilities (Moped with ice bo50% subsidy)

Abstract:

Fish is a perishable commodity. The fish sale price is fluctuates depending upon the time taken from harvest to reach at consumer end. The farmer / fishermen will get good price if the fish marketed quickly after the catch. Quick transportation of fishes caught facilitate the fishermen to get fair price. Hence it is proposed to provide 50 units of Mopeds with Insulated Ice Box to the fishermen / fish vendors.

Budget : Rs. 4.50 lakhs

Background / Problem focus

For transporting and marketing fish hygienically.

Project Rationale/ Project Strategy / Project goals

- Fishermen and vendors will be provided with ice box and mopeds that could make available the fish in time with quality.
- Making available mopeds and ice box at affordable price to meet the fishermen needs.
- To promote and sale of fish of high quality

Project components

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

Project cost and financing

Subsidy for

1. Cost of moped Rs.12,500

2. Cost of ice box Rs.2,500

Total cost : Rs.15,000

Rs. 0.15 lakh for 30 units

Implementation chart of the project

S.No	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1.	Purchase and supply of moped and insulated ice boxes	√	√	√	√

Reporting

The project will be implemented by the Department of Fisheries and TAFCOFED.

11. Strengthening of Fish diseases diagnostic laboratory

Abstract

The fish and shellfish pathology, of late, has attained considerable significance following phenomenal growth of aquaculture industry and the increased incidences of diseases and consequent disastrous losses to the industry. White spot disease in cultured shrimps and epizootic ulcerative syndrome (EUS) in farmed and wild freshwater fishes have accounted for immense revenue losses to the country in hundreds of crores of rupees. The fisheries unit and disease diagnostic centre of Tamilnadu Veterinary and Animal Sciences University, Madhvaram milk colony could be used for assisting with modern diseases diagnostic tools in order to meet the disease problems occurring both in fish culture and marine culture systems.

Budget : Rs. 40.00 lakh

Project cost and financing

a.	Molecular based disease diagnostic equipments	-	Rs.20,00,000
b.	Lab Modularization cost	-	Rs.10,00,000
c.	Contingencies for lab arrangements & coolie wages	-	Rs.10,00,000
	Total	-	**Rs.40,00,000**

Project rationale

- To meet the challenges of the fisheries trade & cultures
- To identify and solve the field level disease problems
- To meet the export a requirement of the entrepreneurs

Project Strategy

- Disease management in aquaculture
- Detection, diagnosis and management of fish and shell fish disease

Project goals

- Attending to etiological agents, implementing, vaccination, therapeutic measures
- To make aware of the newly developed diagnostic and treatment strategies

Project components

A disease diagnostic lab with basic facilities	:	5.00
High speed centrifuges	:	5.00
Co2 incubator	:	1.00
Fluorescent microscope	:	5.00
Elisa Reader	:	2.00
Gel documentation system	:	4.00
Deep freezer	:	2.00
UV Spectrometer	:	3.00
PCR work station	:	3.00
Total	**:**	**40.00**

Implementation chart of the project

S.No	Particulars	2008-2009	2009-2010	2010-2011	2011-2012
1.	Establishment of the lab	√	√		
2.	Purchase of equipments and accessories			√	√

Reporting

Tamilnadu Veterinary and Animal Sciences University, at Madhavaram milk colony and Director of Research and Extension (Fisheries) at Fisheries College and Research Institute, Thoothukudi will report the progress to the Government.

6.5. Agricultural Engineering

The project is proposed for Rs 778.85 lakhs for four years project period and it is proposed to be implemented in watershed basis.

The **thrust areas** focused in the project are

- Rainwater harvesting: - Rainwater harvesting deals with harvesting of surplus water flowing to sea as excess run off through Construction of farm Ponds, Rejuvenation of Percolation ponds with recharge shafts and construction of Check Dams.
- Agricultural Mechanization
- Micro Irrigation
- Control of sea water erosion.

The **approach** will be in orientation with

- Micro Watershed approach
- Water - Budgeting
- Participatory Approach
- Micro Watershed Development Work Plan
- Convergence and Synergy with other schemes and Departments
- Monitoring and Evaluation

The Project is proposed considering all the success parameters. The project is feasible and as the project suggests an alternate method to the Existing water scarcity problems and other agriculture related problems, the project would be well received among farming community.

1. Background/Problem Focus

In Thiruvallur district, over the years the area under Well Irrigation has been increasing resulting in increased ground water exploitation. Reduction of water levels due to over extraction by irrigation users has resulted in drying up of domestic water wells in many areas. Out of 14 blocks 6 blocks are classified as over exploited blocks, 2 as

critical and 5 as semi critical blocks and only one block is safe (less than 70%). Due to increased exploitation of Ground water in Thiruvallur District, the following problems have cropped up.

i. Depletion of Groundwater table below economic pumping level.
ii. Over exploitation of ground water leads to increase in over Exploited, Critical and Semi Critical blocks.
iii. Sea water intrusion into the inland aquifers in the coastal region and ground water pollution.

More than 95% of the surface flow potential of the district has already been exploited through major and medium irrigation reservoirs, Minor Irrigation etc. In addition to the above, surface storage systems for irrigation, ground water is also an important source of irrigation in Thiruvallur District. The ground water potential has been exploited to such as extent that special methods of Rainwater harvesting and ground water recharge are warranted to save the well command in the dry tracts of the district.

- In Thiruvallur District nearly 95% of surface water and 85% of groundwater resources have been harnessed. Agricultural sector is the major consumer of water.
- The average rainfall of the district is 1104.4 mm, of which the North East monsoon contributes to the tune of 690 mm.
- The main occupation of the district is agriculture and allied activities nearly 47% of the total work force are engaged in the agricultural sector.
- The total Geographical area of the Thiruvallur District is 3424 sq.km. The Predominance soil types are sand and sandy loam which is found in all Taluks with predominance of Red loam in part of Tiruthani taluk. Saline and Alkaline soils are also noticed in some patches of Ambattur, Ponneri and Thiruvallur Divisions

- The major crops grown in the district are rice, cumbu - ragi, green gram, black gram, sugar cane and groundnut. Apart from this, certain horticultural crops like mango, guava and vegetables have also bean cultivated successfully.
- Apart from seasonal rivers like Kesathaliar, Aravar, Nandi, Kallar, Coovam and Buckhingham Canal there is no perennial river in the district. Since these seasonal rivers are not sufficient, irrigation through tanks, tube wells and open wells are very common.
- There are 18,855 Tube Wells and 25930 Open Wells in the State.
- Over the years the area under Well Irrigation has been increasing resulting in increased ground water exploitation.
- Reduction of water levels due to over extraction by irrigation users have resulted in drying up of domestic water wells in many areas.
- Out of 14 blocks in Thiruvallur District, 6 blocks are classified as over exploited block, 2 as critical and 5 as semi critical block and only one block is safe (less than 70 %).
- Fast urbanization and reduction of cultivable area
- Due to increased exploitation of Ground water in Tamil Nadu, the following problems have cropped up.
  - (i) Depletion of Groundwater table below economic pumping level
  - (ii) Over exploitation of ground water leads to increasing in Grey and Black area blocks,
  - (iii) Sea water intrusion into the inland aquifers in the coastal region and ground water pollution.

2. Project Rationale

The ground water potential has been exploited to such an extent that special methods of Rainwater harvesting and ground water recharge are warranted to save the well command in the dry tracts of the district.

Thrust Area

The following areas have to be focused necessarily under watershed basis and thrust has to be given to

- Rainwater harvesting:- Rainwater harvesting deals with harvesting of surplus water flowing to sea as excess run off, through Construction of farm Ponds, Rejuvenation of Percolation ponds with recharge shafts and construction of Check Dams.
- Agrl Mechanization
- Micro Irrigation
- Control of sea water erosion.

3. Project Strategy

Project Activities

The project will attempt to saturate the selected watersheds and

a) improve the soil moisture regime
b) increase the water holding capacity in soil profile, surface and sub-surface
c) prevent soil erosion and increase soil fertility
d) Demonstrate alternate land uses
e) Propagate the use of improved agricultural implements and promote selective mechanization.

Project Implementation

The Project will be implemented by Agricultural Engineering department (AED) in coordination with other user departments. Agricultural Engineering Department has a team of experts in this field and the staff available will be utilized right from selection of farmers. Due information and publicity will be given through mass media, village level meetings and individual contacts. The farmers who come forward to install the Drip / Sprinkler Irrigation Equipment will be registered. The installations will be taken up on priority basis.

The programme implemented will be monitored, evaluated periodically by a committee consists of top District level officials of AED to sort out all specific issues and ensure the success of the programme.

Farmers Training

Farmers will be provided training on maintenance of the equipment, periodical cleaning and washing and trouble shooting. Self help techniques to run a trouble free system will be provided to enhance the confidence level of Farmers.

Information and Publicity

Even after the advent of number of mass media and communication networks, the farmer in the rural areas in still unaware of the level of technical and financial assistance available to him. Education, demonstrations and literature in vernacular languages can create a great deal of confidence by intensive information and Publicity.

4. Project Goals

- To improve productivity of rain fed agriculture.
- To promote Water harvesting for recharge of irrigation and drinking water wells.
- Reduce siltation of Reservoirs, Tanks, and other ground level water resources.
- Propagate the use of improved agricultural implements and promote selective mechanization.
- To improve the water use efficiency in well irrigated areas
- To effect water savings and bring more area under cultivation.

5. Project Components

STREAM – I

1) **Introduction of Newly Developed Agricultural Machinery / Implements**
    - Mini combined Harvester TNAU model
    - Multi Crop Thrasher (High Capacity)
    - Power weeder with attachment (All models)
    - Power Thrasher
    - Paddy Transplanter

- Post hole digger
- Shredder (Heavy)
- Shredder (Medium)
- Maize Husker Sheller
- Coconut De-Husker
- Ground Nut decorticator
- Chisel Plough
- Power weeder
- Ratoon Manager
- Multi crop Thrasher
- Knapsack Power operated Hydraulic Sprayer
- Shredder (Tractor PTO operated)
- Power operated Chaff cutter
- Japanese Yanmar 6 Row transplantor with nursery raising system
- Japanese Yanmar 8 Row transplantor with nursery raising system
- Korean 4 row walk behind transplantor
- Combine Harvester-Tractor operated
- Combine Harvester-Self Propelled
- Maize Combine Harvester
- Gender Friendly equipments

2) Innovative Water Harvesting Structures

- Lined farm Pond with Mobile sprinkler
- Rejuvenation of Percolation Ponds with 2 Recharge Shafts

3) Control of Sea Water Erosion

- Recharge Shafts to prevent sea water intrusion in coastal areas

4) Promoting the Concept of Mechanized Villages

- Distribution of crop based package of agricultural machinery on cluster basis in the adopted villages-Paddy, Ground Nut, Maize

STREAM -II

1) **Popularization of Agricultural Mechanization through Conventional Machinery / Implements**
    - Power Tiller
    - Rotavator
    - Cultivator
    - Offset Disc Harrow
    - Disc Plough

2) **Water Harvesting Structures**
    - Farm Pond-Unlined
    - Check Dam-Minor
    - Check Dam-Medium
    - Check Dam-Major
    - Percolation Pond
    - Recharge Shaft
    - New Village Tank
    - Collection Well

3) **Soil Management Works**
    - Compartmental Bunding
    - Land Shaping
    - Terrace Support Wall

4) **Water Management Works**
    - PVC Pipe Laying
    - Ground Level reservoir
    - Fertigation Assembly

Table 43. Project Cost and Financing for Agricultural Engineering Components in Thiruvallur District

Sl.No	Components	Project Cost (Rs. in Lakhs)
1	Introduction of newly developed Agricultural Machinery / Implements	105.52
2	Innovative Water Harvesting Structures	160.00
3	Control of sea water Erosion	50.00
4	Promoting the concept of Mechanized villages	105.59
	Stream I-Total	**421.11**
1	Popularization of Agricultural Mechanization through conventional Machinery / Implements	13.94
2	Water Harvesting structures	252.00
3	Soil Management Works	50.40
4	Water management Works	41.40
	Stream II- Total	**357.74**
	Total Project Cost (Stream I & II)	**778.85**

Implementation Chart of the Project

The project is proposed for a period of four years i.e 2008-2012. The component wise and year wise split up implementation chart of the project is enclosed.

Budget

The programme will have the funding support from DAC through SLSC and the project cost is Rs 421.11 lakhs under Stream – I and Rs. 357.74 lLakhs under Stream –II amounting the total project cost of Rs.778.85 lakhs and the project period is for four years 2008-2012.

Table 44. Split up Year wise Projects Cost of Agricultural Engineering in Thiruvallur District

Sl.No.	Component	2008-2009	2009-2010	2010-2011	2011-2012	Total
1	Stream-I	111.85	117.35	117.30	74.61	421.11
2	Stream-II	102.20	95.95	81.51	78.08	357.74
	Total	**214.05**	**213.30**	**198.81**	**152.69**	**778.85**

Reporting

The Project is proposed considering all the success parameters. The project is feasible and as the project suggest an alternate method to the Existing water scarcity problems, the project would be well received among farming community. With the support of DAC and Government of Tamil Nadu, the project can be implemented successfully and this programme will make greater impact in the history of Agriculture in TAMIL NADU.

Table 45. Plan Proposal for Agricultural Engineering in Thiruvallur District

Sl. No	Project Component	Unit Cost Rs. in Lakhs	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs
Stream : 1													
I)	**Introduction of Newly Developed Agricultural Machinery / Implements**												
1	Mini combined Harvester TNAU model	2.50	50%	3	3.75	3	3.75	2	2.50	2	2.50	10	12.50
2	Multi crop Thrasher (High capacity)	2.10	50%	2	2.10	2	2.10	3	3.15	3	3.15	10	10.50
3	Power weeder with attachment (all models)	1.00	50%	-	-	-	-	-	-	-	-	-	-
4	Power Thrasher	1.00	50%	-	-	-	-	-	-	-	-	-	-
5	Paddy Transplanter	1.40	50%	3	2.10	3	2.10	2	1.40	2	1.40	10	7.00
6	Post hole digger	0.85	50%	-	-	-	-	-	-	-	-	-	-
7	Shredder (Heavy)	1.00	50%	-	-	-	-	-	-	-	-	-	-
8	Shredder (Medium)	0.40	50%	-	-	-	-	-	-	-	-	-	-
9	Maize Husker Sheller	0.90	50%	-	-	-	-	-	-	-	-	-	-
10	Coconut De-husker	0.60	50%	-	-	-	-	-	-	-	-	-	-
11	Ground nut decordicator	0.35	50%	5	0.875	5	0.875	5	0.875	5	0.875	20	3.50
12	Chisel plough	0.12	50%	3	0.18	3	0.18	3	0.18	3	0.18	12	0.72
13	Power Weeder - Oleo mac	0.65	50%	-	-	-	-	-	-	-	-	-	-
14	Ratoon Manager	1.00	50%	-	-	-	-	-	-	-	-	-	-

Table.45 Contd…..

Sl. No	Project Component	Unit Cost Rs. in Lakhs	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs
14	Ratoon Manager	1.00	50%	-	-	-	-	-	-	-	-	-	-
15	Multi crop Thrasher (Tractor PTO)	1.25	50%	2	1.25	2	1.25	2	1.25	2	1.25	8	5.00
16	Knapsac Power operated Hydraulic Sprayer	0.20	50%	8	0.80	8	0.80	8	0.80	8	0.80	32	3.20
17	Shredder (Tractor PTO Operated)	0.85	50%	-	-	-	-	-	-	-	-	-	-
18	Power Operated Chaff Cutter	0.30	50%	3	0.45	3	0.45	2	0.30	2	0.30	10	1.50
19	Jappanese Yanmar 6-row transplanter with nursery raising system	7.50	50%	-	-	1	3.75	1	3.75	-	-	2	7.50
20	Jappanese Yanmar 8-row transplanter with nursery raising system	10.50	50%	1	5.25	-	-	-	-	1	5.25	2	10.50
21	Korean 4-row walk behing transplanter	2.00	50%	1	1.00	-	-	1	1.00	-	-	2	2.00
22	Combine harvester - Tractor operated	12.00	50%	1	6.00	1	6.00	1	6.00	1	6.00	4	24.00
23	Combine harvester - Self propelled	16.00	50%	-	-	1	8.00	1	8.00	-	-	2	16.00
24	Maize combine harvester	16.00	50%	-	-	-	-	-	-	-	-	-	-
25	Gender friendly equipments	0.08	50%	10	0.40	10	0.40	10	0.40	10	0.40	40	1.60

Table.45 Contd…..

Sl. No	Project Component	Unit Cost Rs. in Lakhs	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs
II)	**Innovative Water Harvesting Structures**												
1	Lined farm pond with mobile sprinkler	3.00	90%	-	-	-	-	-	-	-	-	-	-
2	Rejuvenation of percolation ponds with 2 recharge shafts	1.00	100%	40	40.00	40	40.00	40	40.00	40	40.00	160	160.00
III)	**Control of Sea Water Intrusion**												
1	Recharge shafts to prevent sea water intrution in coastal areas	0.50	100%	25	12.50	25	12.50	25	12.50	25	12.50	100	50.00
IV)	**Promoting the Concept of Mechanised Villages**												
1	Distribution of crop based package of Agrl. Machinery on cluster basis in the adopted villages	Varied	75%										
	1) Paddy			1	31.678	1	31.678	1	31.678	-	-	3	95.034
	2) Ground nut			1	3.52	1	3.52	1	3.52	-	-	3	10.56
	3) Maize												
TOTAL				**109**	**111.85**	**109**	**117.35**	**108**	**117.30**	**104**	**74.61**	**430**	**421.11**

Table.45 Contd…..

Sl. No	Project Component	Unit Cost Rs. in Lakhs	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs
Stream : II													
1	**Popularisation of Agricultural Mechanisation through Conventional Machinery / Equipments**												
a	Power Tiller	1.16	25%	5	1.45	5	1.45	5	1.45	5	1.45	20	5.80
b	Rotavator	0.90	25%	5	1.125	5	1.125	5	1.13	5	1.125	20	4.50
c	Cultivator	0.16	25%	10	0.40	10	0.40	10	0.40	10	0.40	40	1.60
D	Off-set Disc Harrow	0.47	25%	3	0.352	3	0.352	2	0.235	2	0.235	10	1.17
e	Disc Plough	0.35	25%	2	0.17	2	0.17	4	0.35	2	0.174	10	0.87
	TOTAL			**25**	**3.50**	**25**	**3.50**	**26**	**3.56**	**24**	**3.38**	**100**	**13.94**
2	**Water Harvesting Structures**												
a	Farm Pond - Unlined	0.50	90%	15	6.75	15	6.75	15	6.75	15	6.75	60	27.00
b	Checkdam - Minor	0.30	100%	10	3.00	10	3.00	10	3.00	10	3.00	40	12.00
c	Checkdam - Medium	0.75	100%	10	7.50	10	7.50	5	3.75	5	3.75	30	22.50
d	Checkdam - Major	1.00	100%	5	5.00	5	5.00	5	5.00	5	5.00	20	20.00
e	Percolation Pond	3.25	100%	4	13.00	3	9.75	2	6.50	1	3.25	10	32.50
f	Recharge Shaft	0.30	100%	50	15.00	50	15.00	50	15.00	50	15.00	200	60.00
g	New Village Tank	1.50	100%	15	25.50	15	22.50	10	15.00	10	15.00	50	78.00
h	Collection Well	0.40	90%	-	-	-	-	-	-	-	-	-	-
	TOTAL			**109**	**75.75**	**108**	**69.50**	**97**	**55.00**	**96**	**51.75**	**410**	**252.00**

Table.45 Contd…..

Sl. No	Project Component	Unit Cost Rs. in Lakhs	Subsidy %	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs	Nos.	Cost Rs. in lakhs
3	**Soil Conservation Works**												
a	Compartmental bunding	0.03	90%	50	1.35	50	1.35	50	1.35	50	1.35	200	5.40
b	Land Shaping	0.10	90%	50	4.50	50	4.50	50	4.50	50	4.50	200	18.00
c	Terrace Support Wall	0.30	90%	25	6.75	25	6.75	25	6.75	25	6.75	100	27.00
	TOTAL			**125**	**12.60**	**125**	**12.60**	**125**	**12.60**	**125**	**12.60**	**500**	**50.40**
4	**Water Management Works**												
a	PVC Pipe laying	0.15	90%	50	6.75	50	6.75	50	6.75	50	6.75	200	27.00
b	Ground level Reservoir	0.80	90%	5	3.60	5	3.60	5	3.60	5	3.60	20	14.40
c	Fertigation Assembly	0.12	50%	-	-	-	-	-	-	-	-	-	-
	TOTAL			**55**	**10.35**	**55**	**10.35**	**55**	**10.35**	**55**	**10.35**	**220**	**41.40**
	GRAND TOTAL			**314**	**102.20**	**313**	**95.95**	**303**	**81.51**	**300**	**78.08**	**1230**	**357.74**

6.6. Agricultural Marketing and Agri -Business

A. Current Status of Agribusiness

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

The Government is taking efforts to attain sustainable agricultural development by bringing agriculture as a commercial venture by switching over from the present method of cultivation through adoption of new scientific method of cultivation to increase the productivity to manifold, value addition, processing and utilization of marketing opportunities. To improve the marketing opportunities for agricultural produce, the Uzhavar Santhai, post harvest management, cold storage facilities for perishables, food processing, establishment of export zones, terminal markets have been taken up. To reduce the loss of the food products which are upto 30%, necessary provisions are made in the Agricultural Industrial Policy to ensure remunerative price to the produce, encourage food processing sector and export to earn foreign exchange by increasing the food processing from the present level of1% to 10%, out of the total production, increasing value addition from 7% to 30%. Under this policy, all assistance which is provided to other industries will be extended to agro based industries, agricultural machineries and industries manufacturing micro irrigation equipments.

One Deputy Director of Agriculture (Agri Business) for each district, one Agricultural Officer for every two blocks, one Assistant Agricultural Officer for one block have been posted as per restructuring to regulate Agri Business and encourage

entrepreneurs. In 103 Uzhavar Shandies, 51 Agricultural Officers and 52 Deputy Agricultural Officers are posted. After restructuring 239 original posts have been enhanced to 906 posts in Agricultural Marketing and Agri Business Department.

B. Agribusiness and the National Development Goals

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

For the agriculture sector, the eleventh Plan projected an annual growth rate of 4% which was seen as achievable if growth of 6 to 8% could be achieved in horticulture. These growth rates have not materilised largely because constraints identified in the Plan have not been overcome. These constraints include lack of modern and efficient infrastructure, poor technological support and post harvest management, underdeveloped and exploitative market structures, inadequate research and extension to address specific agricultural problems and linkages with farmers and industry. The strong relationship between agriculture and rural poverty means that current plans, policy and sector performance will be unable to address the needs of rural poor.

The two most important programs related to agribusiness development are the Technology Mission for Integrated Development of Horticulture (TM) and the National Horticultural Mission (NHM). The focus of the TM is production of horticultural products in Hill states, whereas post harvest management and processing have only a nominal presence. The NHM has a broader coverage of states and addresses issues of market infrastructure development and processing. However, the key issue of

coordination within value chains is not addressed. There needs to be a better understanding of why despite generous subsidies in the past, progress has been slow with private investment in market infrastructure and development of the processing industry. At present 21 Market committees are functioning in Tamil Nadu at district Level There are 277 Regulated Markets, 15 Check Posts, 108 Rural Godowns and 108 grading centres functioning under the Market Committees.

C. Major Constraints and Challenges in Agricultural Marketing and Agribusiness Development in the State

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

Agricultural development continues to remain the most important objective of State planning and policy. The experience of agricultural development in the state has shown that the existing systems of delivery of agricultural inputs and marketing of agricultural output have not been efficient in reaching the benefits of technology to all the sections of farmers. The timely, quality and cost effective delivery of adequate inputs still remains a dream despite the marketing attempts of the corporate sector and the developmental programmes of the state. Also, the farmers are not able to sell their surplus produce remuneratively. There are plenty of distress sales among farmers both in agriculturally developed as well as backward regions in the State. There are temporal and

spatial variations in the markets and the producers' share in consumers' rupee has not been satisfactory, except for a few commodities. In fact, in some commodities like tomato in some regions in State, producers end up making net losses at the same time when traders make substantial profits from the same crop. However, it needs to be recognized that producers' relative share in the final price of a product certainly goes down with the increase in the number of value-adding stages, and therefore, cannot be used as an indicator of a market's efficiency or inefficiency. Nevertheless, the other aspects of the market performance like absolute share of the producer in terms of remunerability, fluctuations in prices across seasons, large spatial price differences and lack of proper market outlets itself, are the issues which have become increasingly crucial in the present context. There are structural weaknesses of agricultural markets like unorganized suppliers as against organized buyers, weak holding capacity of the producers and the perishable nature of the produce in the absence of any storage infrastructure. In the presence of these characteristics of the market, the rural producers cannot simply be left to fend for themselves so far as marketing of their produce is concerned. And if the marketing system does not assure good returns to producers, not much can be achieved in the field of product quality and delivery which are critical for processing and manufacturing sectors. In the environment of liberalization and globalization, the role of the state in agricultural marketing and input supply is being reduced, and an increasing space is being provided to the private sector to bring about better marketing efficiency in input and output markets. On the other hand, processors and/or marketers face problems in obtaining timely, cost effective, and adequate supply of quality raw materials.

Small farms produce more than 35 percent of State total grain, and over half of total fruits and vegetables despite being resource constrained. The marginal holdings have higher cropping intensity compared with that of the small, medium and large farmers, mainly owing to higher irrigated area as percentage of net sown area. The small and marginal farmers are certainly going to stay for long time in State though they are going to face a number of challenges. Therefore, what happens to small and marginal

farmers has implications for the entire State and people's livelihoods. But, they can adequately respond to these challenges only if there is efficient marketing system for handling their small surpluses. Otherwise, they will only be losers in the process of globalization and liberalization. The viability of the small holdings is an important issue and promoting agricultural diversification towards high value crops through an efficient marketing system is argued to be one of the means through which this can be achieved. Hence there is an urgent need for specific intervention in agricultural marketing in Tamil Nadu.

D. Sector Problem Analysis

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

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

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

Most of the Service Providers agencies fail to link with each other, particularly during implementation of national programs. Links between states and central agencies

are often limited. Service providers from the public sector are often unable to provide effective services due to lack of funding, bureaucratic hurdles and the lack of a culture that is client and business oriented. Most NGOs are not used to working in the field of enterprise development and their presence in the agribusiness sector is marginal. Service providers from the private sectors are emerging but are mainly oriented to the needs of corporate clients rather than small and medium enterprises or producer groups that dominate total production.

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

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

E. Project Rationale

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

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

2. As urbanization and incomes grow, there is a growing demand for a wider range of agrifood products, of higher quality and greater convenience, to use in Tamil Nadu. Meeting this demand requires organized retailing and effective agribusiness supply chains.
3. Agribusiness contributes to the production of higher value products and diversification away from staple foods. Through this diversification and the development of the value chain between producers and consumers, the rural economy benefits from innovation and the creation of non-farm employment.
4. Tamil Nadu has a comparative advantage in a number of agricultural commodities. Increasing integration with global markets and the potential to become a stronger player in agricultural trade requires quality assurance and competitive advantage.
5. The State Government has identified agribusiness development as a strategic priority. In Tamil Nadu, agribusiness has a significant role to play in rural and economic development, and agro-enterprises could be a major source of rural non-farm employment and income.
6. The existing government programs to promote agricultural diversification are broad-based programs with multiple objectives. For agribusiness development to happen a more focused approach is needed to complement the initiatives already covered by the different national programs.

F. Project Strategy

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

G. Project Approach

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

H. Project Goals

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

Through the adoption of improved agribusiness practices the project will facilitate the development of a competitive agribusiness sector in Tamil Nadu, promoting diversification and contributing to the transformation of agriculture into a system producing higher value and contributing to the reduction of poverty in rural areas.

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

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

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

I. Project Components

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

Project Components

6.6.1. Establishment / Organization of Commodity Groups for Marketing in the State with Financial Assistance from NADP

i) Project Rationale

According to Government sources, the inefficient marketing system leads to an avoidable waste of around Rs 50,127 crore. A major part of this can be saved by

introducing scale and technology in agricultural marketing. Milk and eggs marketing are two success areas of role of scale and technology in marketing. The extent to which the farmer-producers will benefit (out of saving of avoidable waste) depends on the group-marketing practices adopted by the farmers. In this sense, Farmers' Groups/ Commodity Groups need to be promoted for undertaking marketing activities on behalf of the individual members of the group.

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

ii) Project Strategy

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

iii) Project Goals

Organizing Group Marketing of major agricultural commodities for realizing higher prices through establishing commodity groups.

iv) Project Components

1. Organising meetings with large number of farmers
2. Identification of willing / co operating Farmers
3. Organising the willing farmers in to groups
4. Periodical meeting with groups and coordinating the activities

v) Project Cost and Financing

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

In this project it is proposed to organize 160 commodity groups in two commodities viz. groundnut and mango for marketing of agricultural commodities in Thiruvallur distict over the period of four years. This will require resources of Rs 3680000 for the period of four years.

vi) Reporting

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

6.6.2. Facilitation of Contract Farming between Farmers and Bulk Buyers in the State with Financial Assistance from NADP

i) Project Rationale

Apart from linking the farmer to consumer through farmers' organizations, another initiative for reducing transaction cost is establishment of direct channel between farmer-processor/bulk consumers, through contract farming (CF). For different reasons, both farmers and farm product processors/distributors may prefer contracts to complete

vertical integration. A farmer may prefer a contract which gives access to additional sources of capital, and a more certain price by shifting part of the risk of adverse price movement to the buyer. Farmers also get an access to new technology and inputs, including credit, through contracts which otherwise may be beyond their reach. For a processor or distributor, contracts are more flexible in the face of market uncertainty, make smaller demands on scarce capital resources, and impose less of an additional burden of labour relations, ownership of land, and production activities, on management.

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

Marketing tie-ups between farmers and processors or bulk purchasers have special significance for small farmers, who have small marketed surplus and do no have staying power. Such arrangements are being encouraged to help in reducing price risks of farmers and to also expand the markets for farm products. It is to be noted that contract farming of sugarcane is going on for the last more than 50 years in Tamil Nadu. In case of cotton, maize and medicinal plants there are few cases of contract farming. Contract farming in

milk, eggs and broiler production is successfully taking place in large scale in Tamil Nadu. The lessons taught in case of sugarcane, cotton and other commodities have to be taken into account during formulation of the project. For this in this NADP programme facilitation contract farming between the traders and producer is proposed.

ii) Project Strategy

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

iii) Project Components

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

iv) Project Cost and Financing

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

In this project it is proposed to organize the meeting on various crops regarding contract farming between farmers and bulk buyers in Thiruvallur district for marketing of agricultural commodities in Tamil Nadu over the period of four years. This will require resources of Rs 1380000 for the period of four years.

v) Reporting

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

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

6.6.3. Dissemination of Market Intelligence

i) Project Rationale

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

The most important marketing information is price data. Agricultural price data are based on thousands or millions of transactions, many of them on a small scale, that are taking place every day all over the country. Collecting an adequate sample and making sure that these are representative enough to be useful is not an easy task. As farmers become more market oriented, extension workers need to be in a position to advise them not only on how to grow crops but also on how to market them. Knowledge of produce handling, storage and packaging is also essential. An understanding of costs and margins is essential for all those involved with agricultural marketing. Before any agro-processing venture is started, or before an existing venture decides to expand its product line, an understanding of the market for the planned products is essential. Market

research can never guarantee success but it can certainly increase the likelihood that the new business will turn out to be profitable. Hence in this project is included the dissemination of market intelligence provided by the Domestic and Export Market Intelligence Cell, Centre for Agricultural and Rural Development Studies, Tamil Nadu Agricultural University, Coimbatore and other agencies.

ii) Project Strategy

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

iii) Project Components

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

iv) Project Cost and Financing

In this project it is proposed to disseminate Market intelligence of agricultural commodities to all the Stake holders through different mass media in Thiruvallur _ district over the period of four years. This will require resources of Rs 920000 for the period of four years.

v) Reporting

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

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

6.6.4. Arrangement of Buyers - Sellers Meet

i) Project Rationale

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

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

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

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

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

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

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

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

ii) Project Cost and Financing

In this project it is proposed to arrange for 40 buyers sellers meet in Thiruvallur district over the period of four years. This will require resources of Rs.920000 for the period of four years.

6.6.5. Organizing the Exposure Visits to Important Markets with in the State and Outside the State by Commodity Groups / Farmers and Extension Functionaries

i) Project Rationale

The goal of 4% growth in agriculture can only be achieved by increasing productivity per unit of land. Considering the costs and constraints of resources such as water, nutrients and energy, the genetic enhancement of productivity should be coupled with input use efficiency. This can be made possible only by creation and utilization of new and improved technology. Since new technology creation and development is a slow process, for attaining the desired 4% growth during the XIth Plan period, we will have to rely more on known and proven technology. Agriculture research system claims to have a large number of promising technologies to achieve high growth and promote farming systems that improve natural resource base. However, these are not seen at farmers' fields at large. Visit of other areas, where new technologies are implementing successfully i.e., exposure visits is an important thing to enlighten the farmers for implementing those technologies in their areas also. It is easy to know the new technology through demonstration. Farmers will be selected to visit different places within the State where the technologies are well adopted. Therefore it is proposed to

organize the exposure visit to important markets within the state and outsidethe state by commodity groups / farmers and extension functionaries in the state for marketing of agricultural commodities in Tamil Nadu over the period of four years.

ii) Project Strategy

Organizing the exposure visits to important markets within the state and out side the state by commodity groups / farmers and extension functionaries.

iii) Project Goals

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

iv) Project Components

1. Organizing the exposure visit to important markets with in the state by commodity groups / farmers
2. Organizing the exposure visit to important markets out side the state by commodity groups / farmers
3. Organizing the exposure visit to important markets with in the state and out side the state by extension functionaries

v) Project Cost and Financing

Visit of important markets, where new opportunity for marketing of the commodity and consumer preference i.e., exposure visits SAFAL market Bangalore is an important thing to enlighten the farmers for marketing their produce as well as consumer preference. It is easy to know the marketing of the commodity through observation and participation in the well developed markets. Farmers will be selected to visit different market places within the State where the new opportunities for marketing of commodities exist. This will require resources of Rs.1725000 for the period of four years.

vi) Reporting

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

6.6.6. Strengthening of Market Extension Centre at each District/ Block Level for Capacity Building and Dissemination of Marketing Information

i) Project Rationale

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

ii) Project Strategy

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

iii) Project Goals

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

iv) Project Components

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

v) Project Cost and Financing

Over the last few years mass media has seen a phenomenal growth in the country both in terms of reach and advance in technology. This medium has not been exploited to its full potential for the purpose of agricultural extension specifically market led extension. A concerted and well-coordinated effort now needs to be made to use the electronic media in the Extension strategy by strengthening infrastructure facility. In this project it is proposed to strengthening market extension centre in Thiruvallur district over the period of four years. This will require resources of Rs.525000 for the period of four years.

vi) Reporting

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

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

6.6.7. Establishment of Price Surveillance Mechanism through NADP Funding

i) Rationale

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

ii) Project Components

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

iii) Project Cost and Financing

In this project it is proposed to collect data at a minimum interval of one month from major assembly markets on a continuous basis in Thiruvallur _ district over the period of four years. This will require resources of Rs.92000 for the period of four years.

iv) Reporting

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

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

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

i) Rationale

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

ii) Project Components

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

iii) Project Cost and Financing

In this project it is proposed to have the publicity programmes with the above components in this district with a financial outlay of Rs.23 Lakhs over the period of four years.

vi) Reporting

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

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

Project Cost

The total cost for development of agricultural marketing so as to increase the profitability of farmers would be Rs. 1590.48 Lakhs for this district for the next four years.

Implementation

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

Project Performance Monitoring System

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

Sustainability

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

Table 46. Budget Abstract for Agricultural Marketing and Agri- Business in Thiruvallur District

Sl.No.	Year	Amount (Rs. in lakhs)
1	2008-09	35.55
2	2009-10	1271.00
3	2010-11	140.32
4	2011-12	143.62
	Total	**1590.48**

Table 47 A. Original Project Proposals for Agricultural Marketing and Agri-Business

(in Rs.)

S. No	Components	2009			2010			2011			2012			Total
		Unit Cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	
1	Commodity group formation													
	Groudnut	20000	30	600000	22000	30	660000	24000	30	720000	26000	30	780000	**2760000**
	Mango	20000	10	200000	22000	10	220000	24000	10	240000	26000	10	260000	**920000**
2	Market Intelligence dissemination													
	Groudnut	10000	15	150000	11000	15	165000	12000	15	180000	13000	15	195000	**690000**
	Mango	10000	5	50000	11000	5	55000	12000	5	60000	13000	5	65000	**230000**
	Purchase of marketing materials													
	Purcahse Mar Materials	10000	1	10000	11000	1	11000	12000	1	12000	13000	1	13000	**46000**
3	Facilitation of contract farming	15000	20	300000	16500	20	330000	18000	20	360000	19500	20	390000	**1380000**
4	Exposure visit to markets	75000	5	375000	82500	5	412500	90000	5	450000	97500	5	487500	**1725000**
5	Visit to national market	150000	1	150000	165000	1	165000	181500	1	181500	199650	1	199650	**696150**
	Arrangement of buyer seller meetings	20000	10	200000	22000	10	220000	24000	10	240000	26000	10	260000	**920000**
6	Streng. Of market extension centre	250000	1	250000	275000	1	275000	275000	0	0	325000	0	0	**525000**

Table.47 A. Contd….

S. No	Components	2009			2010			2011			2012			Total
		Unit Cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	
7	Streng. Of village shandies	0	0	0	0	0	0	0	0	0	0	0	0	**0**
8	Market price surveillance	10000	2	20000	11000	2	22000	12000	2	24000	13000	2	26000	**92000**
9	Publicity - regulated market	500000	1	500000	550000	1	550000	600000	1	600000	650000	1	650000	**2300000**
10	Trainings on													
	Warehousing and Storage	10000	5	50000	11000	5	55000	12000	5	60000	13000	5	65000	**230000**
	Grading	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	**460000**
	Market Intelligence	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	**460000**
	Trainings - Post Harvest	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	**460000**
	Export promotion	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	**460000**
	Minimizing PH losses	10000	12	120000	11000	12	132000	12000	10	120000	13000	10	130000	**502000**
	Value addition	10000	13	130000	11000	12	132000	12000	12	144000	13000	12	156000	**562000**
11	Market infrastructure activities	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		10000	5	50000	11000	5	55000	12000	5	60000	13000	5	65000	**230000**
	Total			**3555000**	**1287000**		**3899500**	**1380500**		**3931500**	**1525650**		**4262150**	**15648150**

Table. 47 B. Additional Project Proposals for Agricultural Marketing and Agri-Business - (DDA(AB) and Market Committee)

Rs.in lakhs

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
I.	**Infrastructure**								
1	Construction of rural godowns in the premises of the regulated markets	3	300.00	0	0.00	0	0.00	3	300.00
2	Storage godowns for storing produce under lock and key for few days	3	105.00	0	0.00	0	0.00	3	105.00
3	Construction of new drying yards/renovation of dilapidated ones	10	25.00	10	25.00	10	25.00	30	75.00
4	Construction of new auction halls/modernizing the existing ones	0	0.00	0	0.00	0	0.00	0	0.00
5	Construction of money disbursement halls/counters	0	0.00	0	0.00	0	0.00	0	0.00
6	Construction of office buildings and staff quarters	3	105.00	0	0.00	0	0.00	3	105.00
7	Installation of processing units/purchase of new instruments in the premises of the regulated markets							0	0.00
	(i) Mechanical drier	2	5.00	0	0.00	0	0.00	2	5.00
	(ii) Mechanical winnower	2	5.00	0	0.00	0	0.00	2	5.00
	(iii) Groundnut decorticator	1	15.00	0	0.00	0	0.00	1	15.00
	(iv) Sieving machine	0	0.00	0	0.00	0	0.00	0	0.00
	(v) Cotton Ginning Unit / Pressing Unit	0	0.00	0	0.00	0	0.00	0	0.00
	(vi) Coconut Kernel drying and oil processing units	0	0.00	0	0.00	0	0.00	0	0.00
	(vii) Packaging Units	0	0.00	0	0.00	0	0.00	0	0.00

Table. 47 B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
8	Strengthening the State Ghee and Oil Grading Laboratories	0	0.00	0	0.00	0	0.00	0	0.00
9	Strengthening the Commercial Grading Centres with Laboratory facilities (more numbers can also be included)	0	0.00	0	0.00	0	0.00	0	0.00
10	Strengthening the infrastructure facilities in the Uzhavar Shandies	3	30.00	0	0.00	0	0.00	3	30.00
11	Construction of cold storage facilities in Uzhavar Shandies and in rural godowns	2	20.00	0	0.00	0	0.00	2	20.00
12	Office automation with computer facility for billing etc. in regulated markets	3	7.50	0	0.00	0	0.00	3	7.50
13	Lawying and relawying of village link roads	0	0.00	0	0.00	0	0.00	0	0.00
14	Provision of Oil moisture meters	0	0.00	0	0.00	0	0.00	0	0.00
15	Provision of Oil testing machines	0	0.00	0	0.00	0	0.00	0	0.00
16	Provision of Electronic weighing machines	10	1.50	0	0.00	0	0.00	10	1.50
17	Others if any (Specify) Weighbridge 150 MT	2	150.00	0	0.00	0	0.00	2	150.00
II.	**Publicity and Propaganda**								
1	Market committee-wise strengthening of the Publicity and Propaganda units	0	10.00	0	10.00	0	10.00	0	30.00
2	Market committee-wise purchase of extension education aids	0	10.00	0	10.00	0	10.00	0	30.00

Table.47 B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
3	Strengthening the regional Publicity and Propaganda wings of the Marketing Board and establishing more regional units	0	0.00	0	0.00	0	0.00	0	0.00
4	Pre-harvest campaigns on large scale	20	20.00	20	20.00	20	20.00	60	60.00
5	Others if any (Specify) van	1	1.50	0	0.00	0	0.00	1	1.50
III.	**Public relations**								
1	Construction of bus-stop shed un front of the regulated markets and in selected villages	2	20.00	0	0.00	0	0.00	2	20.00
2	Taking up public relations activities in the villages	0	15.00	0	15.00	0	15.00	0	45.00
3	Construction of common village threshing floors	20	50.00	5	12.50	5	12.50	30	75.00
4	Construction of village common discussion (Chavadi) hall	3	30.00	0	0.00	0	0.00	3	30.00
5	Distribution of tarpaulins to small and marginal farmers	20	12.00	0	0.00	0	0.00	20	12.00
6	Installation of electric light facilities including solar lights in the community threshing floors	0	0.00	0	0.00	0	0.00	0	0.00
7	Construction of over head tanks, laying of street pipelines and provision of public drinking water taps in a village or two wherein the market arrivals are more	2	40.00	0	0.00	0	0.00	2	40.00
8	Provision of Education loan to the children of a few regular customers	4	6.00	4	6.00	4	6.00	12	18.00
9	Celebrating the regulated market fortnight in each district (just like co-operative weeks/fortnight)	50	2.50	50	2.50	50	2.50	150	7.50

Table. 47 B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
10	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
IV.	**Facilities to farmers / Stakeholders**								
1	Construction of rest/stay rooms for farmers I regulated markets	3	150.00	0	0.00	0	0.00	3	150.00
2	Construction/modernization of the common toiletry facilities in the regulated markets	3	80.00	0	0.00	0	0.00	3	80.00
3	Provision of parking lot facilities in the needy centers	0	0.00	0	0.00	0	0.00	0	0.00
4	Providing drinking water facilities to animals	0	0.00	0	0.00	0	0.00	0	0.00
5	Provision of transport facilities/routing the vehicle to transport commodities to the regulated markets	2	16.00	0	0.00	0	0.00	2	16.00
6	Creating farm inputs retailing facilities	0	0.00	0	0.00	0	0.00	0	0.00
7	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
V.	**Any other innovative interventions (specify)**	0	0.00	0	0.00	0	0.00	0	0.00
	Grand Total	**174**	**1232.00**	**89**	**101.00**	**89**	**101.00**	**352**	**1434.00**

Budget Abstract

(Rs.in lakhs)

Sl.No.	Particulars	2008-09	2009-10	2010-11	2011-12	Total
A.	Original Project	35.55	38.995	39.315	42.621	156.4810
B.	Additional Project DDA(AB) and Market Committee	-	1232.00	101.00	101.00	1434.00
	Grand Total	**35.550**	**1271.00**	**140.32**	**143.62**	**1590.48**

6.7. Water Resources Organization / Public Works Department

6.7.1. Origin

The Government of India has launched a National Agriculture Development Programme (NADP) based on the recommendation of the National Development Council as resolved in its 53rd meeting held on 29.5.2007. The NADP aims at achieving 4% annual growth in the agriculture sector during the 11th plan period by ensuring a holistic development of agriculture and allied sectors. This Programme will be administrated by the Union Ministry of Agriculture. Based on this the scheme is formulated.

6.7.2. Location

The proposed scheme is to be implemented in Gummidipoondi and Ponneri taluks of Thiruvallur district.

6.7.3. History

In Gummidipoondi and Ponneri taluks there are 175 tanks in which 34 tanks are being regulated through A.N.Kuppam and Lakshimipuram Anicut systems. The following 23 chains of tanks are identified and selected for Ayanallur group of tanks. During monsoon the Ayanallur tank receives surplus from the seven upper tanks besides its own catchment. For the past two decades no essential works were carried out in these chains of tanks. Hence the entire surplus had spread over the field and fell into the sea without filling the chains of tanks. All the chains of tanks are not up to the required standards and hence water augmentation is not possible. Due to the insufficient storage of these tanks the gaps have widened. The names of the tanks covered in this scheme are Gummidipoondi Perumanjaneri tank, Gummidipoondi Hissa Large Tank, Gummidipoondi Thamarai tank, Gummidipoondi Thervalli Tank, Athupakkam Large Tank, Athupakkam Kanna Pudheri Small Tank, Chinnasoliampakkam tank, Ayanallur Large Tank, Valludalambedu Large Tank, Rettembedu Tank, Kuriviagaram tank in Gummidipoondi taluk and Sekanyam Large Tank, Sekanyam SmallTank, Periyakarumbur Hissa tank, Kumaranjeri Tank, Panapakkam tank, Kudinelvoyal tank,

Illuppakkam tank, Kolur Large Tank, Kolur Small Tank, Poovamai Large tank, Poovamai Small Tank, Periyaveppathur Large Tank in Ponneri taluk of Thiruvallur district.

6.7.4. Present Condition

The total number of tanks proposed to be grouped is 23 (7 upper tanks and 16 lower tanks). In all tanks, the bund is not up to the required standards and most of the sluices and weirs were damaged and beyond repairable condition. Due to the damaged masonry structures and the weakened bunds, rain water could not be stored in the tank up to F.T.L. Further the supply channels and the surplus courses have also silted up and are not capable of carrying the designed discharge. The inlets are also in damaged condition and no shutters are there at present to regulate the inflow to the tank. Due to the damaged inlets every year most of these tank bunds are breached and temporary restoration is required during monsoon.

6.7.5. Proposals

To overcome this situation it has been proposed to execute the following items of works as detailed below:

- The damaged inlets have to be improved by constructing structure with C.C.1:3:6 instead of using brick masonry for permanent measures.

- The damaged and collapsed sluices have to be reconstructed using C.C.1:3:6 instead of using brick masonry to ensure stability.

- The damaged and collapsed weirs have to be reconstructed and strengthened using C.C.1:3:6 for the structure and providing front and rear aprons for protecting the weir during flooding.

- The breached and weakened bunds have to be standardized to ensure the full storage of the tank.

- The supply channels and the surplus courses have to be de-silted and widened to its original width so as to carry the designed discharge of the course.

- It has been proposed to provide lining of field channel for all the sluices to stream line the supply to irrigation.

Masonry Structures

It is proposed to improve the 80 nos. of damaged sluices, 39 nos. of damaged weirs and 12 nos. of inlets and providing field lining of channels for a length of 800m. Provision has also been made for providing shutters for their inlets.

Standardisation of Tank Bunds, Surplus Courses and Supply Channels

It has been proposed to strengthen the 35250 m of tank bund and desilt for a length of 28609m for supply channel and 18610m for the surplus courses.

Economic Analysis

By implementing this scheme the total project cost is works out and described as follows:

Table 48. Plan Proposal for Public Works Department in Thiruvallur District

Sl.No.	Description of Work	Amount in Lakhs
1	Improvements to Tank Bund	167.03
2	Improvements to Sluice	190.00
3	Selective lining to field channel	16.00
4	Improvements to Surplus Course	57.82
5	Improvements to Supply Channel	67.62
6	Improvements to Inlets	36.00
7	Improvements to weirs	64.00
	Total	**598.47**

In addition to the above the following LS provisions are also made in this proposal.

1	P.S. and contingencies 2.5%	5.00
2	Quality control, Testing, Monitoring ,Tender publication & Documentation @ 1%	5.98
3	Labour welfare fund 0.3%	1.80
4	PIM charges @ 1.0%	5.98
5	Unforeseen items of works if any during execution.	0.77
	Total	**19.53**
	Grand total	**618.00**

Conclusion

- By implementing this project 211.01 Hectare of gap will be stabilized and 2579.21 Hectare of ayacut will be benefited which will increase the annual agriculture growth by more than 4 per cent.
- By implementing this scheme the farmers who are depending mainly on the agriculture production & living in backward district adjacent to coastal areas will be marginally benefited. Hence this scheme is an important one for the surrounding villagers.
- By implementing this scheme flood inundation could be avoided.
- The project cost works out to Rs. 618.00 Lakhs and the B.C.Ratio and E.R.R. arrives at 3.12 and 26.40% respectively.
- Since the tanks are not fall under any Basin and of rain fed tanks having no encroachments it is a viable project to be taken under NADP for the year 2008-2009.
- The Proposal is prepared based on the current schedule of rates for the year 08-09

Funding Agency

The expenditure for the above scheme will be met out from the National Agriculture Development Programme for the year 2008 – 2009.

Presentation Meeting of District Agricultural Plan Proposal

As per the instruction given by Director (CARDS) Nodal officer NADP TNAU, Coimbatore - 3, presentation meetings of Thiruvallur District Agricultural plan proposal meeting was organised at Thiruvallur District. In connection with the above, a preliminary meeting was held on 08.05.2008 at Collector's Champers with all line departments under the chairmanship of Thiruvallur District Collector, Shri. Dr. Rajendra Kumar.

As per the guidance given by District Collector the NADP District plant proposal for Thiruvallur District meeting was held at Three different places, covering the entire Thiruvallur District.

The details of meetings are as follows.

1. First Meeting

First meeting was held at Shrimathi Varalakshmi Rama Rao Thirumana Mandapam - Thiruthani on 13.05.2008. Panchayat Presidents representing Thiruthani, Thiruvalangadu, Palli pet and R. K. Pattai Blocks, Line Department officials and RRS Tirur staff Dr. G. Sudhakar Assistant Professor were participated.

2. Second Meeting

Second meeting was held at RRS Tirur on 15.05.2008 under the chairmanship of Thiruvallur District Collector Shri. Dr. Rajendra Kumar. Panchayat presidents representing Ekaddu, Kadambathur, Poondi and Ellapuram Blocks, Line Department officials and RRS Tirur staff Dr. G. Sudhakar Assistant Professor were participated.

3. Third Meeting

Third meeting was held at Deepam Thirumana Mandapam at ponnari on 16.05.2008. Panchayat presidents representing Gummudipoondi, Minjur, Sholavaram, Puzhal and Villivakkam Blocks, and Line department officials were participated.

For the above Three meeting Dr. R. Agila (Associate Professor (Agrl. Extn.)Dept. of Agricultural Extension and Rural Sociology, CARDS, TNAU, Coimbatore -3. Co-ordinated staff for preparation of NADP District Agricultural Plan for Thiruvallur District was presented the Thiruvallur District plan proposals received from the line departments.

Based on the suggestions given by the Panchayat Presidents, line departments, and District Collector suitable corrections were made in the Thiruvallur District Agricultural plan proposals and the same has been submitted.

The details of meetings and number of participants list, photos press note were enclosed in the Annexure I, II and III.

NADP - District plan proposal meeting held at Thiruthani

Presentation of NADP District plan proposals by

Dr. R. Agila Associate Professor, TNAU

NADP District plan proposal meeting held at RRS Tirur

District Collector and line department officials listen the presentatic

Presidential Address given by Shri Dr. Rajendra Kumar Senior district collector Thiruvallur District

NADP district plan proposal meeting held at ponneri

Presentation of plan proposal by Dr. R. Agila Associate Professor, TNAU

Line Department officials and Panchayat President attended the Meeting

Thiruvallur district soil legend