NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)

DISTRICT AGRICULTURE PLAN

THENI 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

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

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

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

(C. RAM AS AMY)

Coimbatore
June 30, 2008

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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)

TABLE OF CONTENTS

LIST OF TABLES

List of Tables Contd….

LIST OF FIGURES

EXECUTIVE SUMMARY

The National Development Council (NDC) decided to initiate a special Additional Central Assistance Scheme, named National Agriculture Development Programme (NADP/RKVY) 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. This follows the preparation of a comprehensive State Agriculture Plan (SAP) by integrating the above District level agriculture plans. The task of preparing such District Agriculture Plan for Theni district 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.

Theni district which was classified as 'highly developed' in agricultural development during 1990-91 and became 'developed' in agriculture during 1995-96 and 2000-01 and during the recent period it was classified as 'developing'. In terms of overall agricultural development its rank among the 29 districts of Tamil Nadu varied from 6 to 17 during the 1990-91 to 2005-06. Except livestock, in all other components performance of the district in the period of study is satisfactory. For example, in cultivators and labourers its rank varies from 5th to 18th rank in all the four periods. Similarly in livestock variables also it occupied rank between 17th and 28th ranks.

The SWOT analysis results in a provisional goal formulation, a provisional development strategy and a priority ranking of actions to be undertaken on the short, medium and long terms to attain the development goal.

Strengths

S1	:	Rich forest resources and Lush plantation crops
S2	:	High proportion of irrigated area to gross cropped area
S3	:	Rich livestock wealth

Weaknesses

W1	:	Low rainfall
W2	:	Large area of barren and uncultivable lands especially in Bodinayakkanur, Chinnamanur and Periyakulam blocks
W3	:	Large area of fallow lands

Opportunities

O1	:	Tourist attraction
O2	:	Increased productivity
O3	:	Diversification of income generating activities

Threats

T1	:	Larger area put under non agricultural purpose
T2	:	Urbanisation
T3	:	Less area under fodder crops, pulses and oil seeds

Paddy, coconut and sugarcane are the major crops of the district accounting for 13, 13 and 6 per cent of the total cropped area respectively. Total cereals accounted for 34 per cent of total cropped area whereas total pulses and oil seed has 8.5 and 16 per cent of total cropped area respectively. Paddy is widely cultivated in Theni, Uthamapalayam, Cumbum, Chinnamanur blocks whereas sugarcane is cultivated in Theni and Periyakulam blocks in large area. Rainfed crops like cotton and groundnut are cultivated in dry block of Andipatty.

Theni block ranks first in the district in irrigated area with more than 95 per cent cropped area irrigated by various sources. This block has larger area under paddy, sugarcane, pulses and vegetables. Theni, Periyakulam and Bodinayakkanur have larger irrigated area under sugarcane. Paddy is cultivated as the major irrigated crops in all blocks except Mayiladumparai where the plantation crops are the major crops.

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.

The District Agriculture Plan (DAP) for the Theni district was prepared based on the proposals received from the different stakeholders and discussions with officials of different line departments. The tentative plan has been also presented to the Theni District Collector and organized an interactive meeting involving the officials of line departments and village Panchayat Presidents. Considering the views expressed by the Collector and the different stakeholders, the report has been finalized.

The abstract of financial outlay for the period over 2008-09 to 2011-12 for above said focus areas for the district of Theni is presented below.

ABSTRACT

Sl. No	Sectors	Budget (in Lakh rupees)				
		2008-09	**2009-10**	**2010-11**	**2011-12**	**Total**
1	Agriculture	169.800	27.000	37.730	38.960	**273.490**
2	Horticulture	181.980	192.230	197.480	233.730	**805.420**
3	Animal Husbandry	553.300	246.640	211.815	206.065	**1217.820**
4	Fisheries	67.900	25.200	9.900	8.100	**111.100**
5	Agricultural Engineering	207.160	227.578	219.150	225.010	**878.898**
6	Agricultural Marketing	33.50	161.58	271.95	295.54	**762.57**
7	PWD/WRO	950.000	-	-	-	**950.000**
	Total	**2163.64**	**880.23**	**948.03**	**1007.41**	**4999.30**

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 Agriculture 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.

Sensitization Workshop

A series of Sensitization Workshop was conducted from 04.03.08 to 18.03.08 at TNAU Campus. The TNAU Staff from Krishi Vigyan Kendras and Research Stations, officials from line Departments *viz.,* Agriculture, Horticulture, Agricultural Engineering and Tamilnadu Veterinary and Animal Sciences University attended the workshop. Also several meetings were held in Chennai for the National Agriculture Development Programme under the Chairmanship of Agriculture Production Commissioner and Secretary to Government of Tamil Nadu.

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

Preparation of Draft Action Plan and Presentation in District Collectors Meeting

Based on the baseline information and proposals, draft action plan was prepared and this was presented in the District Collectors Meeting held on 14.05.2008 under the chairmanship of the District Collector. This meeting was attended by the scientists from TNAU, officials from line departments and the representatives of local bodies. Wide coverage was given in the media also.

Finalization

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

CHAPTER - II

GENERAL DESCRIPTION OF THE DISTRICT

2.1. Introduction

Theni District has been formed after bifurcation from erstwhile Madurai District as per G.O.Ms.No.679 Revenue Department Dated:25.07.96. Consequent on the bifurcation, one new Revenue Division with headquarters at Uthamapalayam and two new Taluks at Theni and Bodinaickanur were also created with effect from 01.01.97. Dr.K.Satyagopal IAS was the first collector for Theni District. Theni Municipal town was only a firka headquarters till 31.12.96.

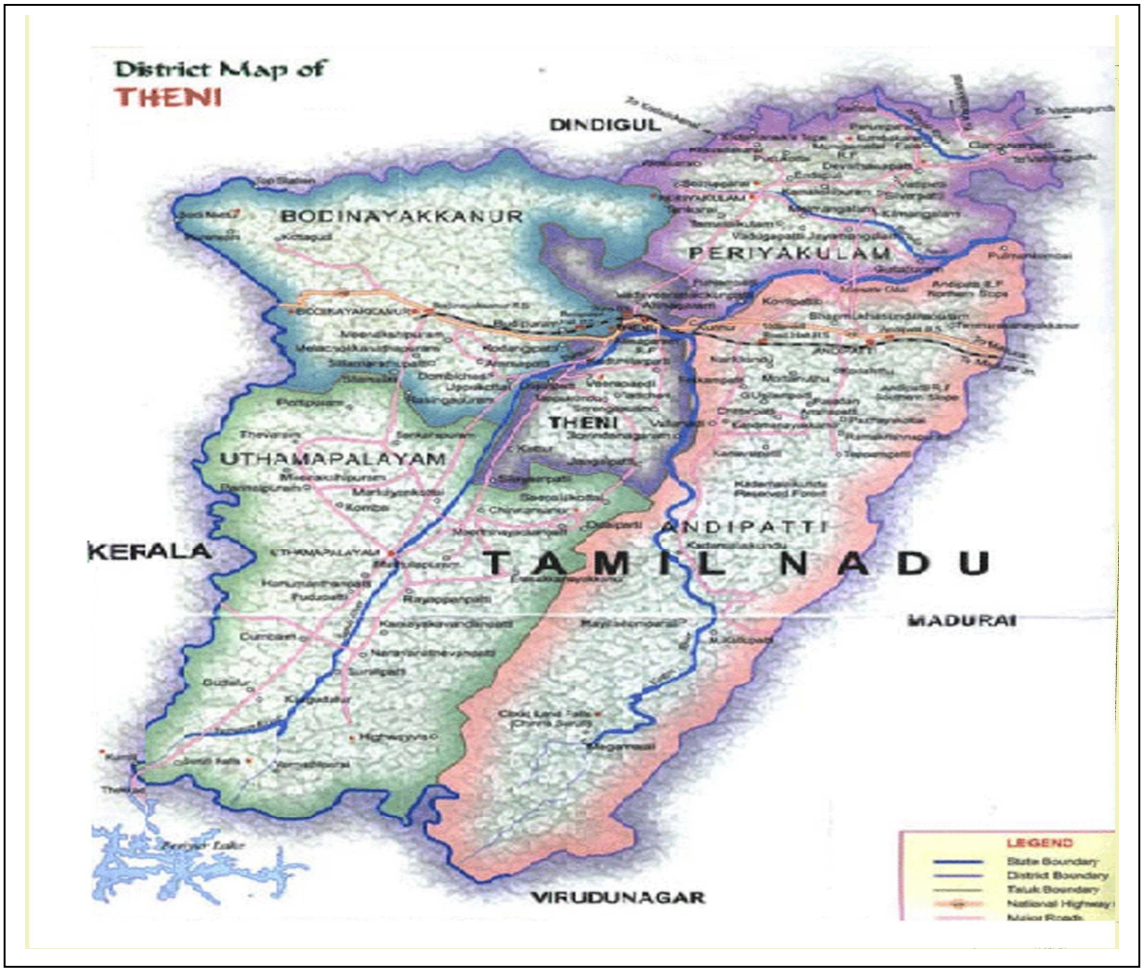


Figure 1. Map of the Theni District

Consequent on the formation of the new District, Theni Municipal Town has been upgraded as the Taluk and District headquarters from 01.01.97. It is mainly a commercial town. It is also known for its big weekly shandy on every Sunday. Vaigai dam and Kumbakarai falls in Periyakulam Taluk, Suruli falls in Uthamapalayam Taluk are the main places of attraction for tourists. Gowmariamman Temple at Veerapandi Village (Theni Taluk) and Saneeswara Bahavan Temple at Kuchanur Village (Uthamapalayam Taluk) are important and famous Hindu temples of this area. Kannagi temple which witnesses a single day festivity during Chitra Pournami day is in the interstate border.

2.2. District at a Glance

2.2.1. Location and Geographical Units

Theni District is situated in between latitude $9^{O}30'$ and $10^{O}30'$ and longitude $77^{O}00'$ and $78^{O}30'$ with an area of 3242.30 sqkm. It is an inland district. It is encompassed on the west by Kerala State, on the east by Madurai District, on the north by Dindigul District and on the south partly by Kerala and Virudhunagar. Agriculture is the primary occupation of the district and 67 per cent of its population live in rural areas.

Theni enjoys salubrious climate. Its maximum temperature is $38.5^{O}C$ and the minimum is $26.3^{O}C$. The climate is conducive for agricultural and horticultural crops. Based on the rainfall distribution, irrigation pattern, soil characteristics, cropping pattern and physical, ecological and social characteristics, 90 per cent of the district falls under Southern Zone and the areas adjoining to Western ghat falls under Western Zone accounting for 10 per cent of the areas. The total geographical area of the district is 288923 Ha. The details of taluks, blocks, village panchayats and town panchayats are illustrated below:

i)	Taluks	:	5 (Andipatti, Bodinayakanur, Periyakulam, Theni and Uthamapalayam)
ii)	Blocks	:	8 (Andipatti, Kadamalaigundu, Mayiladumparai, Periyakulam, Theni, Uthamapalayam, Chinnamanur, Cumbum, and Bodinayakanur)
iii)	Revenue Villages	:	113
iv)	Village Panchayats	:	130
V)	Town Panchayats	:	13

Manjalar, Periyar, Theniar, Vaigai and Varahanadhi passes through the district. The major river basin is Vaigai. Theni comes under medium rainfall region. The normal rainfall of the district is 829.8 mm. South West monsoon accounts for 21 per cent, North East monsoon 46 per cent, winter 6 per cent and summer 27 per cent of total rainfall. Theni depends mainly on North East monsoon rains, which are brought by the troughs of low pressure establishing in south bay of Bengal between October and December.

2.2.2. Demographic Profile

The demographic details of Theni district are presented in Table 1. Among the 8 blocks of this district Andipatty and Bodinayakkanur blocks are having less male female ratio of 753 and 664 when compared to the district ratio of 909 coinciding with the lower literacy rate and lower female literacy rate. The district has a sizeable scheduled caste population ranging between 17 to 25 per cent of the total population. Urban area of Theni block and Cumbum block which is situated adjacent to the state of Kerala have the highest literacy rate.

Table 1. Demographic Details of Theni District

Particulars		Theni	Periya Kulam	Andipatty	Myiladumparai	Uthamapalayam	Cumbam	Chinnamanur	Bodinayakkanur	District
Total population	Male	58845	63753	79138	22621	54531	77787	37969	47339	441983
	Female	57251	61740	59566	22621	54087	77530	37383	31436	401614
	Total	116097	125493	138704	45242	108618	155317	75352	78775	843597
Literates	Male	45263	45449	45861	14794	39825	70246	15128	21338	297905
	Per cent	77	71	58	65	73	90	40	45	67
	Female	34921	33675	28176	9131	30613	47089	20722	14299	218625
	Per cent	61	55	47	40	57	61	55	45	54
	Total	80184	79124	74038	23925	70438	117335	35849	35637	516529
	Per cent	69	63	53	53	65	76	48	45	61
SC population	Male	12993	15957	14366	5262	9559	8023	7423	6771	80353
	Per cent	23	26	24	23	18	10	20	22	20
	Female	12769	15457	14042	4997	9409	7940	7435	6454	78504
	Per cent	22	25	24	22	17	10	20	21	20
	Total	25763	31414	28408	10259	18968	15963	14858	13225	158857
	Per cent	22	25	20	23	17	10	20	17	19

Source: Statistical Hand Book of Theni District

2.2.3. Distribution of Operational Holdings

Landholding in the district is heavily fragmented as evidenced from Table 2. More than 83 per cent of the total number operational holdings and more than 55 per cent of the total area are in the category of less than two hectares.

Table 2. Number and Area of Operational Holdings

Blocks		Categories of operational holdings (ha)					
		<1	1 to 2	2 to 5	5 to 10	>10	Total
Theni	Number	8278 (70)	2377 (20.1)	986 (8.3)	141 (1.2)	32 (0.3)	11823
	Area	2642.37 (43.8)	3105.86 (51.5)	4257 (70.6)	1073 (17.8)	488 (8.1)	6032.93
Periyakulam	Number	16992 (69.8)	4962 (20.4)	2070 (8.5)	270 (1.1)	69 (0.3)	24363
	Area	7590.95 (32.1)	6998.54 (29.6)	6009 (25.4)	7136 (30.2)	1269 (5.4)	23653.44
Andipatty	Number	17363 (77.1)	4193 (18.63)	1657 (7.4)	180 (0.8)	30 (0.1)	22508
	Area	6684.12 (35)	6040.12 (31.6)	4771 (25)	1185 (6.2)	443 (2.3)	19123.21
Myiladumparai	Number	6542 (57.3)	3557 (31.2)	940 (8.2)	207 (1.8)	173 (1.5)	11419
	Area	3403.55 (20)	4784.62 (28.2)	2693 (15.8)	1421 (8.4)	4694 (27.6)	16995.17
Uthamapalayam	Number	8520 (70.1)	1910 (15.7)	1317 (10.8)	320 (2.6)	82 (0.7)	12149
	Area	3623.72 (26.5)	2516.15 (18.43)	9471 (69.4)	2056 (15.1)	1455 (10.7)	13655.59
Cumbam	Number	4717 (56.1)	1763 (21)	1119 (13.3)	380 (4.5)	119 (1.4)	8413
	Area	2893.57 (17.6)	3744.40 (22.8)	4641 (28.2)	2611 (15.9)	2207 (13.4)	16430.07
Chinnamanur	Number	5182 (44.5)	2553 (21.9)	1040 (8.9)	191 (1.6)	55 (0.4)	11649
	Area	3306.47 (27.3)	3357.24 (27.8)	3040 (25.1)	1291 (10.7)	1081 (8.9)	12098.48
Bodinayakkanur	Number	7699 (43.3)	3493 (19.6)	1914 (10.8)	383 (2.2)	94 (0.5)	17788
	Area	5223.50 (25.7)	4716.96 (23.2)	5699 (28)	2574 (12.6)	2134 (10.5)	20347.69
District	Number	75291 (62.7)	24808 (20.7)	11043 (9.2)	2072 (1.7)	654 (0.5)	120112
	Area	35368.25 (27.6)	35263.87 (27.5)	40579.48 (31.6)	19346.59 (15.1)	13772.58 (10.7)	128336.57

Note: Figures in parentheses are percentage to corresponding total
Source: Statistical Hand Book of Theni district

Very less number (9.2 per cent) of medium farmers with two to five hectares of operational holdings possessed highest share in area (31.6 per cent). Mayiladumparai block has largest share of area of operational holdings (27.6 per cent) of more than 10 hectares. Just 1.50 per cent of owners possess these lands in the form of estates. Chinnamanur and Bodinayakkanur blocks which have more number of larger estates have less number of operational holdings in the category of less than one hectare at around 45 and 43 per cent of the total number of holdings.

2.2.4. Source-wise Irrigated Area

Groundwater is the major source of irrigation in the district as about 60 per cent of the gross area and 57 per cent of the net area have been irrigated by the groundwater sources (Table.3). Mayiladumparai block completely depends on groundwater sources for irrigation. Theni and Uthamapalayam blocks come next in groundwater utilization as reported in the table that about 77 per cent of the net are has been irrigated by groundwater sources in these blocks. Periyakulam block is largely supported by tanks (23 per cent of net area).

Table.3 Source wise Area Irrigated

(Ha)

Blocks	Area	Flow	Tank	Groundwater	Total
Theni	Net area	1094.67 (16)	487.33 (7.1)	5269.33 (76.8)	6858.00
	Gross area	1243.67 (15.7)	622.67 (7.9)	6054.00 (76.4)	7920.33
Periyakulam	Net area	1874.00 (32)	1391.67 (23.8)	2587.00 (44.2)	5852.67
	Gross area	2016.33 (21.3)	1530.33 (16.1)	5937.33 (62.6)	9484.00
Andipatty	Net area	187.33 (9)	277.50 (13.3)	118.67 (5.7)	2084.00
	Gross area	189.33 (8.7)	271.00 (12.5)	118.67 (5.5)	2172.33

Table.3 Contd… **(Ha)**

Blocks	Area	Flow	Tank	Groundwater	Total
Myiladumparai	Net area		27.67 (0.6)	4711.33 (99.4)	4739.00
	Gross area		27.67 (0.6)	4842.33 (99.4)	4870.00
Uthamapalayam	Net area	778.67 (13.3)	440.67 (7.6)	4500.00 (77.1)	5835.50
	Gross area	1396.00 (29.9)	749.00 (16.1)	4920.50 (105.5)	4664.50
Cumbam	Net area	2407.00 (35.6)	2573.50 (38)	3181.67 (47)	6768.33
	Gross area	4036.00 (46.8)	4339.50 (50.3)	3214.33 (37.2)	8633.33
Chinnamanur	Net area	1654.67 (34)	618.33 (12.7)	1494.33 (30.1)	4864.67
	Gross area	1654.67 (29.7)	1116.33 (20)	1603.00 (28.73)	5580.00
Bodinayakkanur	Net area	2731.50 (53)	2842.00 (55.5)	2352.33 (45.9)	5120.67
	Gross area	2900.00 (53.3)	3005.50 (55)	2491.67 (45.6)	5462.00
District	Net area	10727.83 (25.4)	8658.67 (20.6)	24214.67 (57.4)	42122.83
	Gross area	13436.00 (27)	11662.00 (23.9)	29181.83 (59.8)	48786.50

Note: Figures in parentheses are percentage to corresponding total
Source: Statistical Hand Book of Theni district.

CHAPTER - III
SWOT ANALYSIS OF THE DISTRICT

The key tools used in this exercise of preparation of district agriculture plan for Theni district planning is SWOT analysis. The outcomes of the SWOT analysis are used as inputs for the preparation of action plans for the district. This provides the means, in a participatory approach (bottom-up component), to (i) gradually refine the development goal and strategy, (ii) gradually select and specify the highest priority actions and (iii) present the district development and action plan as a coherent entity consisting of a logical succession of priority projects, ranked according to a time critical path for implementation (the final strategy).

SWOT is an analytical and strategic planning tool often used in a participatory planning approach for the agricultural development. Originally the method was developed for strategic planning for marketing purposes. SWOT is only a tool in a planning process and has to be based on a sound knowledge of the present situation and trends. The outputs of a SWOT analysis are structured basic information, a common understanding of reality and a set of common strategic options.The two main components of SWOT are: (i) indicators of the *internal situation* described by existing strengths and weaknesses:

A *strength* is defined as any internal asset of know-how, technology, motivation and entrepreneurial spirit, finance, business links, etc. which can help to exploit opportunities and to fight off threats.

A *weakness* is an internal condition or any internal deficit which endangers the competitive position of a region or hampers the exploitation of opportunities, indicators of the *external environment* described by existing threats and unexplored opportunities.

An *opportunity* is any external circumstance or characteristic which favours the demand of the region or where the region is enjoying a competitive advantage.

A *threat* is a challenge of an unfavourable trend or of any external circumstance which will unfavourably influence the position of the region.

The analysis of the SWs and OTs results in a provisional goal formulation, a provisional development strategy and a priority ranking of actions to be undertaken on the short, medium and long terms to attain the development goal.

Strengths

S1: Rich forest resources and Lush plantation crops

S2: High proportion of irrigated area to gross cropped area

S3: Rich livestock wealth

Weaknesses

W1: Low rainfall

W2: Large area of barren and uncultivable lands especially in Bodinayakkanur, Chinnamanur and Periyakulam blocks

W3: Large fallow lands

Opportunities

O1: Tourist attraction

O2: Increased productivity

O3: Diversification of income generating activities

Threats

T1: Larger area put under non agricultural purpose

T2: Urbanisation

T3: Less area under fodder crops, pulses and oil seeds

Table 4. SWOT Matrix

	Opportunities	**Threats**
Strengths	**Maxi-Maxi strategy (MM)**	**Maxi-mini strategy (Mm)**
S1	• Strengthening tourism activities • TTDC to be integrated with all major department • Conservation of forest and natural resources	• Start more tree plantation • Enhance Tamil Nadu Afforestation Programme (TAP) to make use of lands under non agricultural uses
	Opportunities	**Threats**
Strengths	**Maxi-Maxi strategy (MM)**	**Maxi-mini strategy (Mm)**
S2	• Introduction of high yield varieties • Bring more area under cash crops	
S3	• Concentration more on agricultural allied activities • Start more cooperative milk societies and milk chilling plants • NDDB and NECC activities	• Action plan for increasing area under fodder crops to encourage livestock production
Weaknesses	**Mini-Maxi strategy (mM)**	**Mini-mini strategy (mm)**
W1		• Formulation of alternate cropping pattern with more emphasis on less water consuming crops
W2	• Bring more area under less water consuming high value crops • Introduce water saving techniques in large scale Subsidisation of micro irrigation projects • More concentration on watershed activities	• Tree plantation, avenue plantation • Enhancing TAP
W3	• Bring more area under livestock and poultry farming • Popularise integrated farming system	• Start fodder crop movement • Initiatives should be made to start large scale pulses procurement to create demand for pulses • Start more oil mills

Composite Index of Agricultural Development of Theni 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 per cent development and 0 representing no development at all. It is assumed that there are 'n' districts and 'm' development indicators and that X_{id} is the observed value of i^{th} development indicator for the d^{th} district (i = 1,2,3 … m, d = 1,2,3…n). First these values of development indicators for each district are to be standardized. When the observed values are related positively to the development (as in the case of cropping intensity), the 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 Theni 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 5 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).

Table 5. Selected Indicators of Agricultural Development for Theni District

Component	Indicators	No. of Indicators
Crop-Area-Variables	Cropping intensity	10
	Per cent of gross cropped area to total geographical area	
	Per cent share of food grains to gross cropped area	
	Per cent share of food crops to gross cropped area	
	Per cent share of non food crops to gross cropped area	
	Per cent share of cultivable waste to total geographical area	
	Per cent area under high yielding variety-paddy	
	Per cent area under high yielding variety-cholam	
	Per cent area under high yielding variety-cumbu	
	Per cent area under high yielding variety-ragi	

Table.5 Contd….

Component	Indicators	No. of Indicators
Irrigation	Irrigation intensity	7
	Per cent of gross irrigated area to gross cropped area	
	Per cent of net irrigated area to net area sown	
	Per cent area under canal irrigation to gross irrigated area	
	Per cent area under tank irrigation to gross irrigated area	
	Per cent area under well irrigation to gross irrigated area	
	Per cent 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	Per cent of cultivators to total population	2
	Per cent of agricultural labourers to total workers	
	Total	**25**

The analysis showed that Theni district which was classified as 'highly developed' in agricultural development during 90-91 and became 'developed' in agriculture during 1995-96 and 2000-01 and during the recent period it was classified as 'developing'. In terms of overall agricultural development its rank among the 29 districts of Tamil Nadu varied from 6 to 17 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 6. The table shows that except in

livestock, in all other components its performance in the period of study is satisfactory. For example, in cultivators and labourers its ranks is varies from 5th to 18th rank in all the four periods. Similarly in livestock variables also it occupied ranks between 17th and 28th ranks.

Table 6. Rank of Theni 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	2	9	28	-	-	17	6
	1995-96	10	14	20	17	2	18	8
	2000-01	13	19	17	17	3	5	15
	2005-06	18	18	27	15	5	15	17

CHAPTER - IV

DEVELOPMENT OF AGRICULTURAL SECTOR

4.1. Introduction

During the past five decades of planned development, India has achieved spectacular increase in food grain production. Green revolution enabled us to enter into new era in input use. The use of high yielding variety seeds, fertilizers, plant protection chemicals have increased manifold. Development of major and minor irrigation projects has gone up. But still, the overall gains have not been equitably shared by the farming community. This is mainly because two thirds of agriculture in our country is rainfed. According to one recent estimate, the availability of water for irrigation would emerge as a critical bottleneck. The requirements of ground water exceed its availability for irrigation by nearly 30 per cent. Since the requirement will exceed the replinishable supplies for irrigation at the existing rate of recharge of ground water, it will lead to over exploitation of ground water in several state and by 2020 as much as 71 per cent of irrigated area is likely to be from ground water sources (Chopra and Golder, 2000).

Closely related to this is the problem of degradation of land in the rainfed areas. As it is, the rate of degradation of land in such areas in the 1990s is likely to have proceeded at more than twice the rate observed in 1980s, basically on account of soil erosion from run-off (Reddy, 2000). Clearly, the existing interventions for drought proofing have failed to neutralize the overall processes of degradation of natural resources underway in the rural areas. This calls for a thorough reappraisal of our agricultural policies with a view to evolving an overall policy framework that provides adequate incentives and opportunities for agricultural development across regions.

Table 7. Land use Pattern in Theni District

(Ha)

Classification	Theni	Periya Kulam	Andipatty	Myiladum parai	Uthama palayam	Cumbam	Chinna manur	Bodinayakanur
Forest	1814.00 (9)	2795.00 (10.6)	6206.00 (21.5)	40719.00 (64.8)	5552.00 (21.4)	16097.00 (40.56)	3795.00 (13.47)	26741.00 (33.25)
Barren and uncultivable land	520.00 (2.6)	4468.00 (16.9)	177.00 (0.6)	410.00 (0.7)	4163.00 (16)	823.00 (2.07)	4904.00 (17.40)	27857.00 (34.63)
Land put under non agricultural purposes	2872.33 (14.2)	6129.33 (23.2)	4390.33 (15.2)	2216.67 (3.5)	2085.67 (8)	1244.67 (3.14)	2060.33 (7.31)	2997.00 (3.73)
Cultivable waste	413.00 (2)	868.33 (3.3)	345.33 (1.2)	892.67 (1.4)	128.00 (0.5)	91.33 (0.23)	564.00 (2.00)	436.00 (0.54)
Permanent pasture	49.00 (0.2)	0.00 (0)	6.00 (0.02)	176.00 (0.3)	0.00 (0)	8.00 (0.02)	72.00 (0.26)	3.00 (0.00)
Land under miscellaneous tree crops	439.00 (2.2)	272.33 (1)	43.33 (0.2)	71.00 (0.1)	397.67 (1.5)	453.67 (1.14)	231.33 (0.82)	434.67 (0.54)
Current fallow	717.33 (3.6)	567.67 (2.2)	133.00 (0.5)	218.33 (0.4)	208.33 (0.8)	374.00 (0.94)	103.00 (0.37)	170.33 (0.21)
Other fallow	2734.67 (13.5)	5378.00 (20)	1789.33 (6.2)	2307.00 (3.7)	4764.00 (18.4)	5887.67 (14.84)	6448.00 (22.88)	3328.00 (4.14)
Total cropped area	10637.67 (52.7)	17608.67 (66.6)	15724.67 (54.6)	15631.00 (24.9)	8649.33 (33.3)	14703.67 (37.05)	10029.33 (35.60)	18466.33 (22.96)
Net sown area	7621.00 (37.7)	12173.67 (46.1)	15985.33 (55.5)	10539.67 (16.8)	10095.00 (38.9)	16868.67 (42.51)	7926.33 (28.13)	12702.33 (15.79)
Geographical area	20197 (100)	26436 (100)	28815 (100)	62875 (100)	25948 (100)	39683 (100)	28176 (100)	80433 (100)

Source: Statistical Hand Book of Theni District

4.2. Land use Pattern in the District

The district is bestowed with rich forest resources at about 33 per cent of total geographical area. Among the blocks Mayiladumparai and Cumbam have 65 and 41 per cent of forest area in which Cumbam has an equal share of net sown area of more than 40 per cent.

Andipatty block has the maximum percentage of net sown area of 56 per cent followed by Periyakulam and Cumbam with 46 and 43 per cent while Mayiladumparai has the least proportion of 17 per cent since about 65 per cent of total geographical area is occupied by forests in the block. Land put under non-agricultural purposes are relatively higher in urban blocks like Theni, Periyakulam and Andipatti. There is huge scope of increasing the cultivable area in the district through efficiently utilizing the larger proportion of fallow lands.

4.3. Rainfall

The annual average rainfall of Theni district is around 950 mm. The major rainy season is North West monsoon period during which fifty per cent of total rain has been received in this season in all blocks except Cumbum which receives rainfall equally during south west monsoon, north west monsoon and winter season. The district receives about 20 per cent of its annual rainfall during hot weather period.

Table 8. Rainfall Distribution in Theni District

(in mm)

Season	Theni	Periya kulam	Andipatty	Myiladum Parai	Uthama Palayam	Cumbam	Chinna manur	Bodinayak kanur	District
South west monsoon	165.2 (18.2)	128.8 (12.9)	247 (25.7)	139.4 (16.1)	174 (16.8)	290.4 (34.8)	191.5 (21)	131.2 (12.2)	183.4 (19.3)
North west monsoon	510.6 (56.2)	577 (57.9)	462.8 (48.2)	466 (53.9)	559.3 (54)	205.9 (24.7)	434.5 (47.6)	626.6 (58)	480.3 (50.6)
Winter season	31.1 (3.4)	76.7 (7.7)	23.6 (2.5)	34.5 (4)	128.6 (12.4)	256.1 (30.7)	64.5 (7.1)	77.8 (7.2)	86.6 (9.1)
Hot weather period	202 (22.2)	214.9 (21.5)	227.3 (23.7)	225.3 (26)	173.9 (16.8)	81.7 (9.8)	223 (24.4)	244 (22.6)	199 (21)
Annual	**908.9**	**997.4**	**960.7**	**865.2**	**1035.8**	**834.1**	**913.5**	**1079.6**	**949.3**

Source: Statistical Hand Book of Theni District

4.4. Soil

Dominant soil types in the study district are red loam, lateritic soil, black soil, sandy coastal alluvium, red sandy soil and other soils including forests soils (Table.9). Of the different types of soils prevalent in the district, the red loam soil is predominant and it accounts for nearly 51 per cent of the total soils in the district. The other major types of soils are red sandy soils (18.5 per cent) and lateritic soils (12 per cent). The different types of soils are favourable for growing diversified crops across the district.

Table 9. Soil Types Prevalent in the District

Type of Soil	Area covered (Ha.)	Percentage of occurrence
Red Loam	64779	50.7
Lateritic Soil	14791	11.6
Black Soil	3786	3
Red Sandy Soil	23670	18.5
Others (Soil association sand loams, forests & Hills)	181897	-

Source: Statistical Hand Book of Theni district

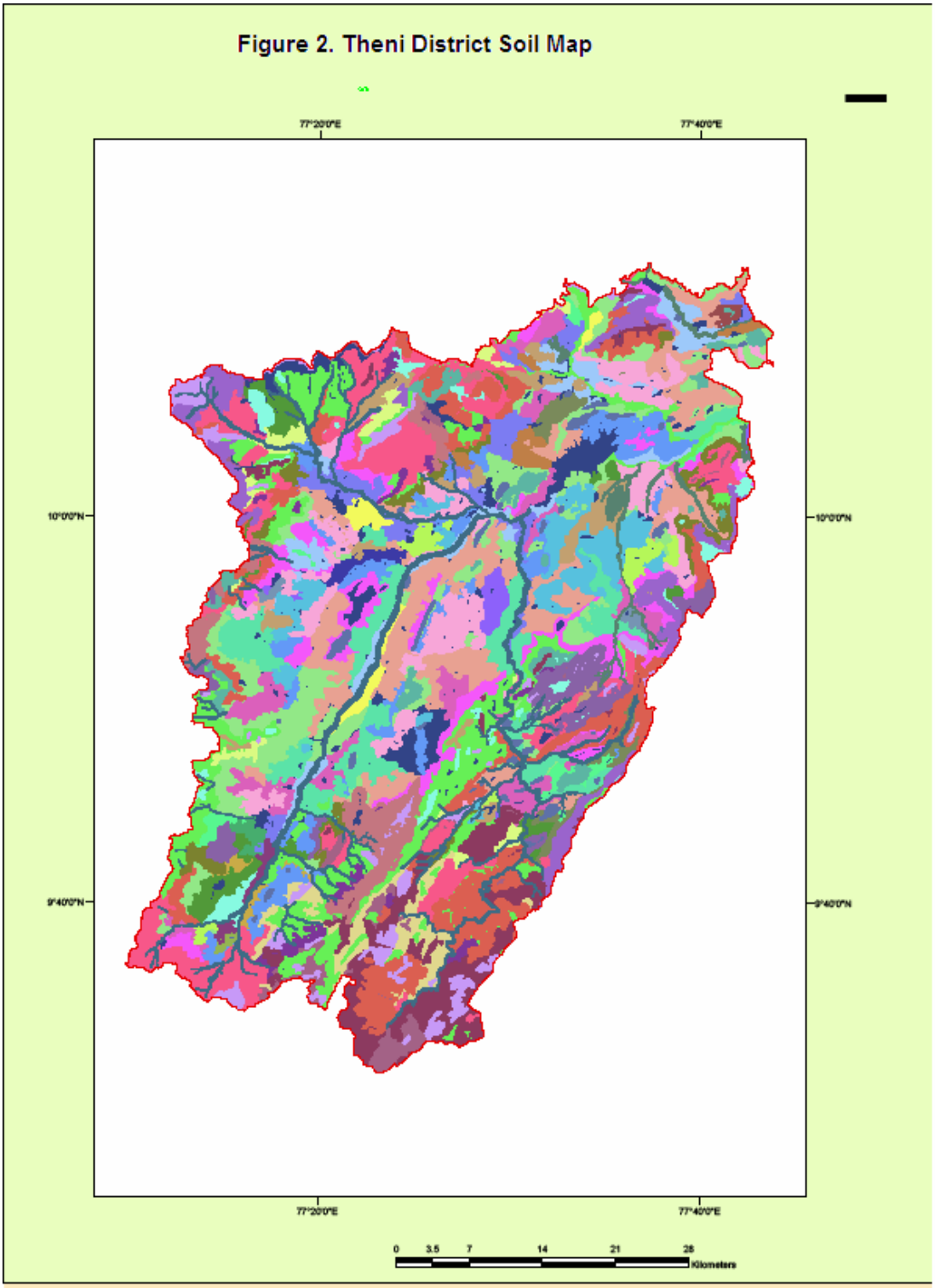
A map explaining different types of soils prevailing in Theni district is presented in figure 2.

Theni Soils and Area in Hectare

Soil Description	Area (ha)
Deep, fine loamy, mixed, Inceptisols	24806.85
Deep, fine loamy, mixed, Alfisols	21884.10
Moderately deep, fine, mixed, Inceptisols	18822.73
Moderately shallow, fine, mixed, Alfisols	17997.24
Shallow, loamy, mixed, Inceptisols	15540.28
Moderately shallow, fine loamy, mixed, Alfisols	12340.63
Deep, fine, mixed, Alfisols	12295.40
Shallow, loamy skeletal, mixed, Inceptisols	11385.92
Moderately shallow, fine, mixed, Inceptisols	11170.72
Moderately deep, fine, mixed, Alfisols	9386.30
Very shallow, loamy, mixed, Entisols	8321.55
Moderately deep, fine loamy, mixed, Alfisols	8302.16
Shallow, clayey, mixed, Alfisols	7118.13
Deep, fine, montmorillonitic, Inceptisols	6348.37
Deep, fine, montmorillonitic, Vertisols	6334.06
Very deep, fine, mixed, Mollisols	6222.68
Deep, clayey skeletal, mixed, Inceptisols	6031.84
Very shallow, clayey skeletal, mixed, Entisols	5597.46
Very deep, coarse loamy, mixed, Mollisols	5563.00
Deep, coarse loamy, mixed, Mollisols	4800.09
Very deep, fine, mixed, Alfisols	4556.64
Deep, fine, mixed, Inceptisols	4471.17
Moderately shallow, clayey skeletal, mixed, Inceptisols	4145.89
Moderately deep, fine loamy, mixed, Inceptisols	4084.61
Very deep, fine loamy, mixed, Alfisols	3943.29
Very deep, coarse loamy, mixed, Inceptisols	3461.21

Soil Description	Area (ha)
Shallow, clayey, mixed, Inceptisols	2625.74
Deep, clayey skeletal, mixed, Alfisols	2459.69
Moderately shallow, clayey skeletal, mixed, Alfisols	2309.57
Shallow, clayey, mixed, Ultisols	2307.87
Deep, coarse loamy, mixed, Inceptisols	2175.07
Shallow, clayey skeletal, mixed, Inceptisols	2072.57
Very deep, fine, mixed, Inceptisols	1987.35
Very deep, fine, montmorillonitic, Inceptisols	1862.91
Moderately shallow, fine loamy, mixed, Entisols	1495.83
Very deep, very fine, montmorillonitic, Vertisols	1272.58
Deep, coarse loamy, mixed, Alfisols	951.20
Shallow, clayey skeletal, mixed, Alfisols	758.85
Very deep, fine, montmorillonitic, Vertisols	602.57
Moderately deep, fine, montmorillonitic, Inceptisols	479.08
Shallow, loamy, mixed, Alfisols	411.08
Shallow, loamy skeletal, mixed, Alfisols	253.74
Shallow, loamy, mixed, Entisols	213.83
Deep, contrasting particle size, mixed, Entisols	82.64
Moderately shallow, fine loamy, mixed, Inceptisols	14.74

Figure 2. Theni District Soil Map

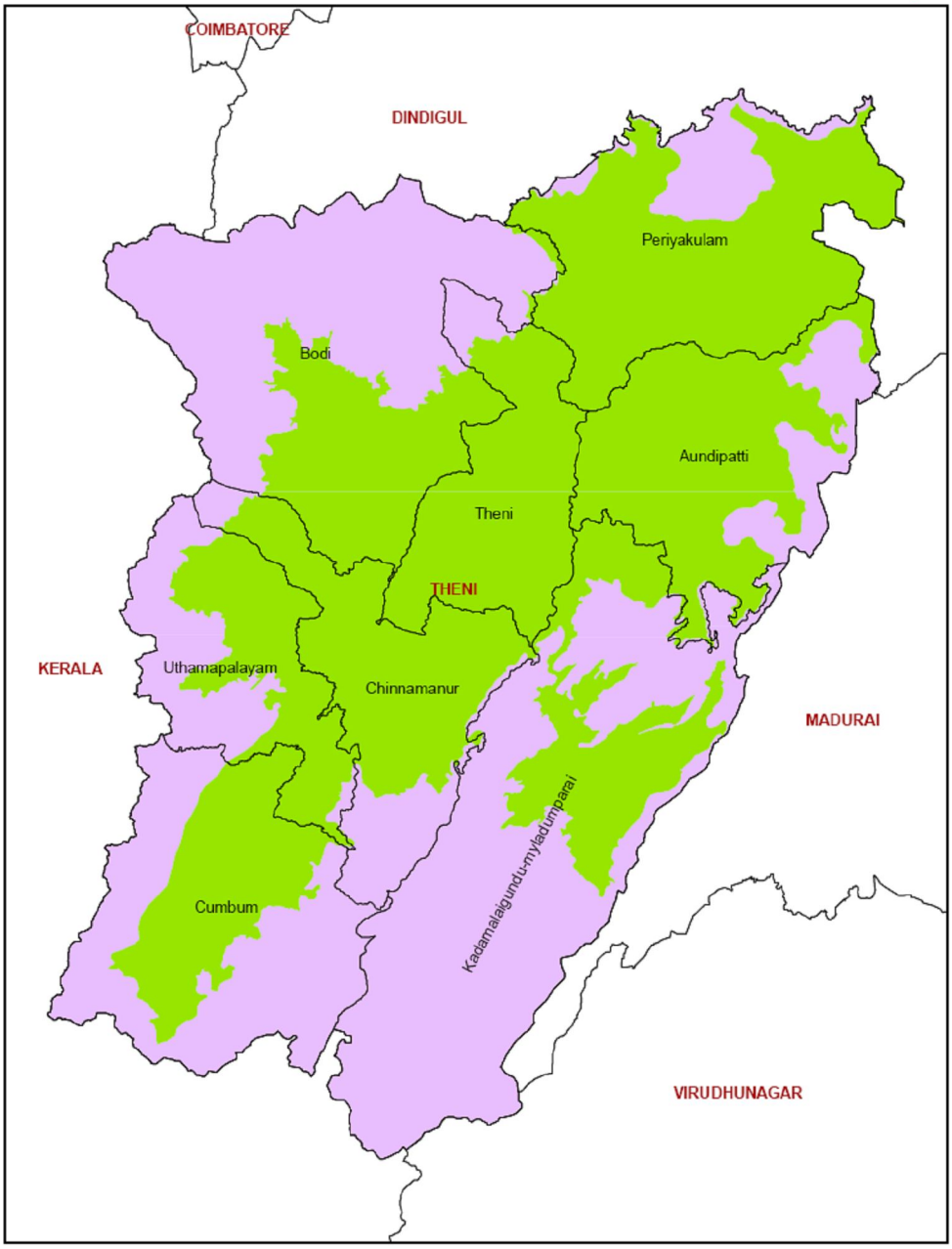


THENI DISTRICT SOIL LEGEND

Legend

- DEEP, CLAYEY SKELETL, MIXED, ALFISOLS
- DEEP, CLAYEY SKELETL, MIXED, INCEPTISOL
- DEEP, COARSE LOAMY, MIXED, ALFISOLS
- DEEP, COARSE LOAMY, MIXED, INCEPTISOL
- DEEP, COARSE LOAMY, MIXED, MOLLISOLS
- DEEP, CONTRASTING PARTICLE SIZE, MIXED, ENTISOLS
- DEEP, FINE LOAMY, MIXED, ALFISOLS
- DEEP, FINE LOAMY, MIXED, INCEPTISOL
- DEEP, FINE, MIXED, ALFISOLS
- DEEP, FINE, MIXED, INCEPTISOL
- DEEP, FINE, MONTMORILLONITIC, INCEPTISOL
- DEEP, FINE, MONTMORILLONITIC, VERTISOLS
- MODERATELY DEEP, FINE LOAMY, MIXED, ALFISOLS
- MODERATELY DEEP, FINE LOAMY, MIXED, INCEPTISOL
- MODERATELY DEEP, FINE, MIXED, ALFISOLS
- MODERATELY DEEP, FINE, MIXED, INCEPTISOL
- MODERATELY DEEP, FINE, MONTMORILLONITIC, INCEPTISOL
- MODERATELY SHALLOW, CLAYEY SKELETL, MIXED, ALFISOLS
- MODERATELY SHALLOW, CLAYEY SKELETL, MIXED, INCEPTISOL
- MODERATELY SHALLOW, FINE LOAMY, MIXED, ALFISOLS
- MODERATELY SHALLOW, FINE LOAMY, MIXED, ENTISOLS
- MODERATELY SHALLOW, FINE LOAMY, MIXED, INCEPTISOL
- MODERATELY SHALLOW, FINE, MIXED, ALFISOLS
- MODERATELY SHALLOW, FINE, MIXED, INCEPTISOL
- SHALLOW, CLAYEY SKELETL, MIXED, ALFISOLS
- SHALLOW, CLAYEY SKELETL, MIXED, INCEPTISOL
- SHALLOW, CLAYEY, MIXED, ALFISOLS
- SHALLOW, CLAYEY, MIXED, INCEPTISOL
- SHALLOW, CLAYEY, MIXED, ULTISOLS
- SHALLOW, LOAMY SKELETL, MIXED, ALFISOLS
- SHALLOW, LOAMY SKELETL, MIXED, INCEPTISOL
- SHALLOW, LOAMY, MIXED, ALFISOLS
- SHALLOW, LOAMY, MIXED, ENTISOLS
- SHALLOW, LOAMY, MIXED, INCEPTISOL
- VERY DEEP, COARSE LOAMY, MIXED, INCEPTISOL
- VERY DEEP, COARSE LOAMY, MIXED, MOLLISOLS
- VERY DEEP, FINE LOAMY, MIXED, ALFISOLS
- VERY DEEP, FINE, MIXED, ALFISOLS
- VERY DEEP, FINE, MIXED, INCEPTISOL
- VERY DEEP, FINE, MIXED, MOLLISOLS
- VERY DEEP, FINE, MONTMORILLONITIC, INCEPTISOL
- VERY DEEP, FINE, MONTMORILLONITIC, VERTISOLS
- VERY DEEP, VERY FINE, MONTMORILLONITIC, VERTISOLS
- Very SHALLOW, CLAYEY SKELETL, MIXED, ENTISOLS
- Very SHALLOW, LOAMY, MIXED, ENTISOLS
- WATERBODY / SETTLEMENT / MISCELLANEOUS LANDFORM

AGROCLIMATIC ZONES OF THENI 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.

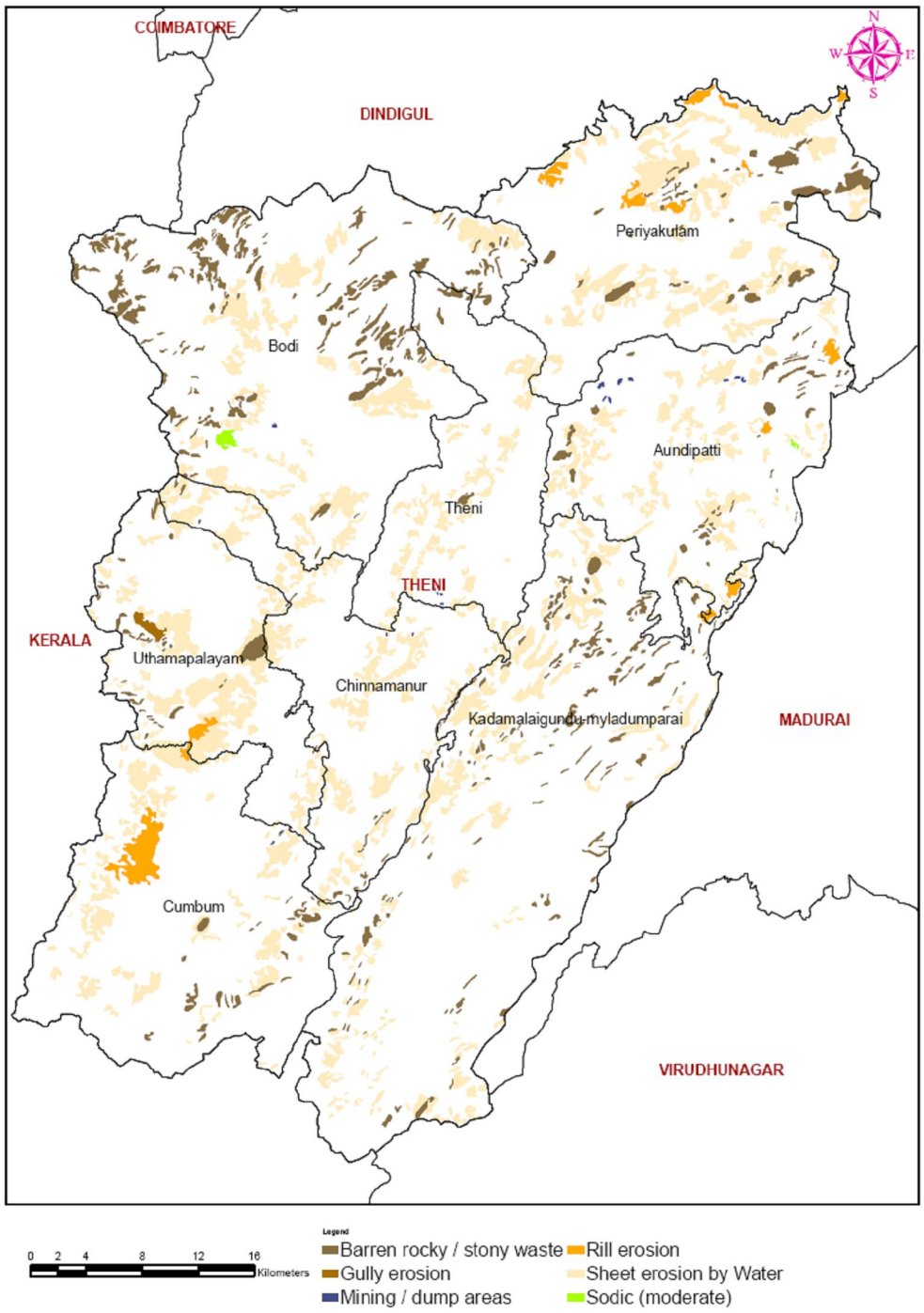
HIGH RAINFALL ZONE

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 THENI 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

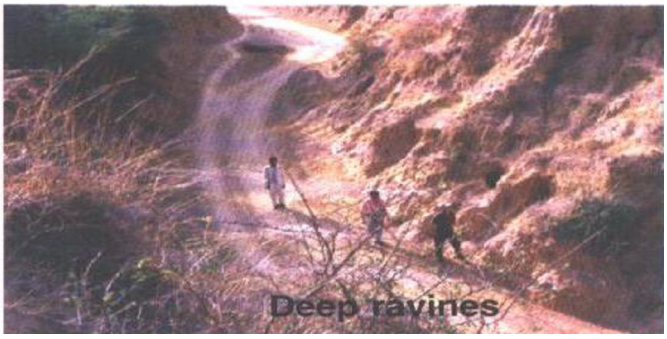
When the surface runoff goes in the form a concentric flow, a tiny water channels are formed in the field. These are small rivulets of such a size that they can be worked over with farm machinery. Rills are generally associated with the cultivated lands and are visible in the ploughed soil after first 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.

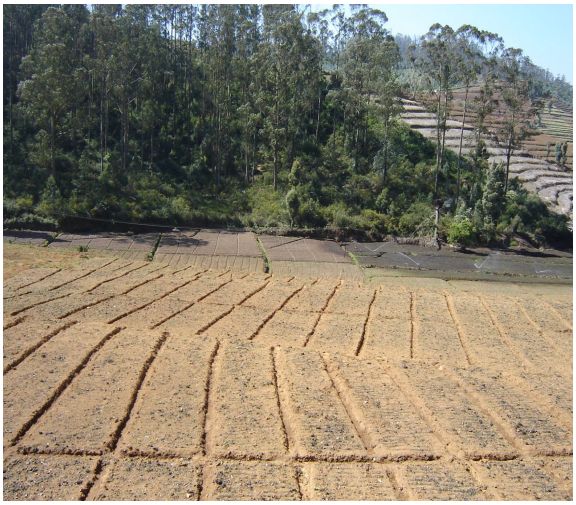
Salinity

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

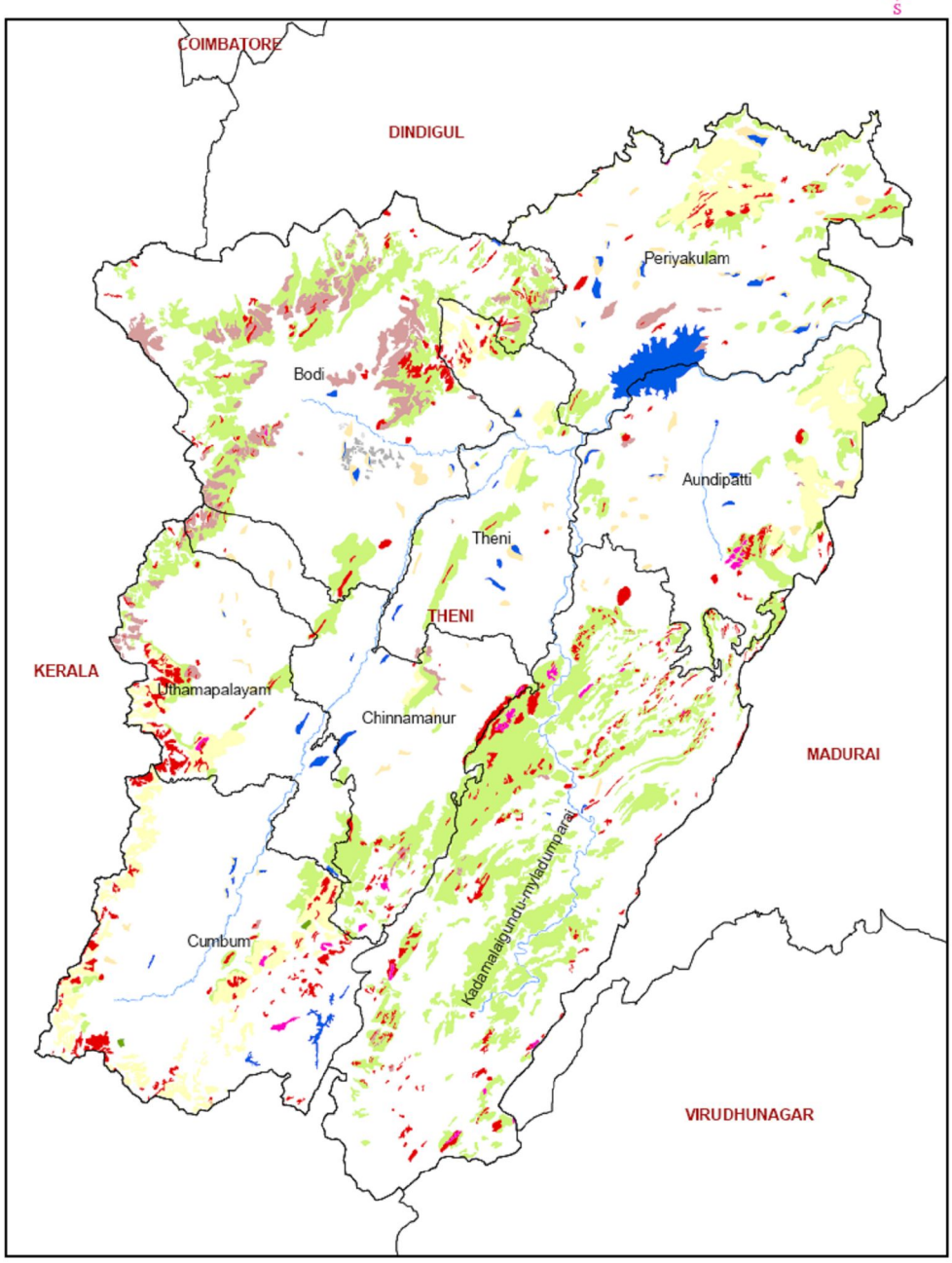
Barren / rocky / stony areas are the rock exposures of varying lithology often barren and devoid of soil and vegetal cover. They occur in hill forests as openings or as isolated exposures on plateau and plains. These can be easily delineated from other type of degraded land because of their severe nature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



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

WASTELAND CLASSIFICATION

Culturable Wastelands

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

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

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

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

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

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

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

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

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

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

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

Unculturable Wastelands

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

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

4.5. Cropping Pattern

Paddy, coconut and sugarcane are the major crops of the district accounting for 13, 13 and 6 per cent of the total cropped area respectively (Table.10). Total cereals accounted to 34 per cent of total cropped area whereas total pulses and oil seeds has 8.5 and 16 per cent of total cropped are respectively. Paddy is widely cultivated in Theni, Uthamampalayam, Cumbum, Chinnamanur blocks whereas sugarcane is cultivated in Theni and Periyakulam blocks in large area. Rainfed crops like cotton and groundnut are cultivated in dry block of Andipatty.

Theni block ranks first in irrigated area with more than 95 per cent cropped area irrigated by various sources. This block has larger area under paddy, sugarcane, pulses and vegetables. Theni, Periyakulam and Bodinayakkanur have larger irrigated area under sugarcane. Paddy is cultivated as the major irrigated crop in all blocks except Mayiladumparai where the plantation crops are the major crops (Table.11).

Table 10. Cropping Pattern in Theni District

(in Ha.)

Block	Theni	Periya Kulam	Andipatty	Myiladum Parai	Uthama Palayam	Cumbam	Chinna manur	Bodinayak kanur	District
Paddy	2145 (18.3)	1936 (10.7)	1009 (6.3)	572 (3.6)	1959 (19.4)	3916 (23)	2890 (25.6)	1322 (7)	15855 (13.3)
Total cereals	6660 (56.8)	3829 (21.1)	7646 (47.8)	2201 (13.9)	3907 (38.7)	4869 (28.6)	5581 (49.5)	5525 (29.4)	40475 (33.8)
Red gram	100 (0.8)	19 (0.1)	504 (3.2)	1034 (6.5)	60 (0.6)	568 (3.3)	604 (5.4)	142 (0.8)	3050 (2.5)
Total pulses	2269 (19.4)	645 (3.5)	1030 (6.4)	1974 (12.4)	338 (3.3)	1751 (10.3)	929 (8.2)	1145 (6.1)	10145 (8.5)
Groundnut	27 (0.2)	184 (1)	902 (5.6)	109 (0.7)	780 (7.7)	98 (0.6)	224 (2)	77 (0.4)	2418 (2)
Coconut	1139 (9.7)	3249 (17.9)	579 (3.6)	1423 (9)	2134 (21.1)	3739 (21.9)	1359 (12.1)	1772 (9.4)	15488 (12.9)
Total oilseeds	2009 (17.1)	2918 (16.1)	1557 (9.7)	1542 (9.7)	2944 (29.2)	4150 (24.4)	1589 (14.1)	1936 (10.3)	18766 (15.7)
Cotton	508 (4.3)	383 (2.1)	1086 (6.8)	630 (4)	9 (0.1)	26 (0.2)	22 (0.2)	471 (2.5)	3153 (2.6)
Sugar cane	1436 (12.25)	2203 (12.1)	659 (4.1)	786 (5)	289 (2.9)	262 (1.5)	345 (3.1)	1537 (8.2)	7558 (6.3)
Total vegetables	638 (5.44)	317 (1.7)	1402 (8.8)	11177 (7)	939 (9.3)		532 (4.7)	372 (2)	5353 (4.5)
Total cropped area	11723	18154	15985	15875	10095	17040	11269	18794	119637

Note: Figures in parentheses are percentage to total cropped area

Source: Statistical Hand Book of Theni district

Table 11. Crop Area Irrigated in Theni District

(in Ha.)

Crops/Particulars		Theni	Periya kulam	Andipatty	Myiladu mparai	Uthama palayam	Cumbam	Chinna manur	Bodinaya kkanur	District
Paddy	Net	1264	1622	1008.7	528	981.7	1963.3	1440	1003	9810.7
	Gross	2063.5	1907	1008.7	528	1959.0	3916.0	2905	1143.5	15430.7
Total cereals	Net	4512.5	1828.5	2189.0	1513.5	1932.3	2265.3	1879.5	2286	18406.7
	Gross	6274.5	2151	2161.0	1677	2909.7	4256.0	17761	27707	64897.2
Total pulses	Net	3232	15.5	40.3	16	98.3	818.0	20	23	4263.2
	Gross	3232	15.5	40.3	16	98.3	818.0	20	23	4263.2
Groundnut	Net	12	31	130.3	82.5	383.7	50.7	39.5	55	784.7
	Gross	12	47.5	189.3	92.5	383.7	50.7	39.5	56.5	871.7
Coconut	Net	1158.5	3254	578.7	1427.5	2218.0	3738.7	1360.5	1829.5	15565.3
	Gross	1158.5	3254	578.7	927.5	2218.0	3738.7	1360.5	1829.5	15065.3
Total oilseeds	Net	1230.5	3346	726.0	1516.5	2523.7	3210.3	1403	1906.5	15862.5
	Gross	1230.5	3345	789.0	1526.5	2523.7	3210.3	1403	1909.5	15937.5
Cotton	Net	184.5	150	631.3	305	9.3	12.3	17.5	212.5	1522.5
	Gross	180	274.5	718.0	323.5	9.3	12.3	17.5	216	1751.2
Sugar cane	Net	998.5	2806.5	591.0	844.5	156.3	256.7	345	1768	7766.5
	Gross	1360.5	2806.5	657.7	844.5	288.7	261.7	330	1770.5	8320
Total irrigated area	Net	10281.5	9826	6540.3	9964.5	6671.7	10272.7	5801	8067.5	67425.2
	Gross	11431.5	10373	6801.0	10129.5	8004.7	12290.7	7458	8784.5	75272.8
Per cent to GCA		97.51	57.14	42.55	63.81	79.29	72.13	66.18	46.74	62.9

Source: Statistical Hand Book of Theni district

4.6. Input Management

An important and crucial input in agricultural production is the consumption of fertilizers and use of plant protection chemicals is necessary to increase agricultural productivity and production. The total fertilizers consumption is 21823 tonnes during 2006-07. Of the total fertilizers, nitrogenous, phosphatic and potassic fertilizers use is significant. Equally, pesticides in the form of dust and liquid forms are being used significantly to enhance agricultural production.

Table 12. Consumption of Chemical Fertilizers and Pesticides during 2006-07

Fertilizers (M.tonnes)				Pesticides		Urea (Tons)
Nitrogenous	**Phosphate**	**Potassic**	**Total**	**Dust (Tons)**	**Liquid (Lit)**	
9982.0	5928.4	5912.8	21823.2	1206.0	56997.0	13770.0

Source: Statistical Hand Book of Theni district

4.7. Farm Mechanisation/Farm Equipments

Farm mechanization is crucial to perform various operations in time and to manage growing labour scarcity. The use of farm machinery and implements in Theni district shows that around 155586 number of ploughs are being used in the agricultural sector.

Table 13. Farm Machinery and Implements

(Numbers)

Particulars	1994 census
Ploughs	
a) Wooden	79750
b) Iron	75835
Total	**155586**
Water Pumps for Irrigation Purpose	48732
Tractors	
a) Government	131
b) Private	2001
Total	**2132**

Table 13. Contd….. **(Numbers)**

Particulars	**1994 census**
Sugarcane Crushers	
a) Worked by Power	23
b) Worked by Bullocks	30
Total	**53**
Oil Ghanis	
a) 5 Kg. & above	65
b) Less than 5 Kg.	135
Total	**200**

Source: Based on 16th Quinquennial Livestock Census

The other important machinery includes irrigation pumpsets, tractors, sugarcane crushers and so on. In order to manage growing labour scarcity, the important interventions such as sugarcane harvester may be thought of in the sugarcane growing areas.

4.8. Ongoing Schemes

To promote agricultural development in Theni district, both the State and Central governments implement various development schemes in the district.

Table 14. Achievement Details of Agricultural Scheme during 2007-08

Sl.No	**Schemes**	**Fund Rs. Lakhs**	
		Target	**Achievement**
	I. State Government Schemes		
1	Procurement & Distribution of Paddy & Millets Seed	26.720	26.124
2	Procurement & Distribution of Pulses Seed	12.950	13.135
3	Procurement & Distribution of Cotton Seed	3.015	2.570
4	Procurement & Distribution of Oilseeds seed	10.613	9.035
5	Coconut Development Programme	5.160	5.007
6	Crop Protection Scheme	3.738	3.013
7	Procurement & Distribution of Green Manure seed	0.400	0.400

Table 14. Contd….

Sl.No	Schemes	Fund Rs. Lakhs	
		Target	**Achievement**
8	Production & Distribution of Blue-Green algae	0.166	0.166
9	Production & Distribution of Vermicompost	0.077	0.077
10	Competition & Price Distribution For Crop Production	0.800	0.800
	Total	63.639	60.327
	II Central & State Government Schemes		
1	Integrated Food grains development Programme	6.450	15.781
2	Isofarm-Pulses Scheme	16.803	15.781
3	Isofarm- Maize Scheme	2.897	2.796
4	Isofarm- oilseed Scheme	9.875	9.707
5	Seed village scheme	16.090	16.084
6	Cotton mini mission – II	19.138	19.136
7	Coconut Development Programme Scheme	13.740	13.740
8	Crop Monitoring Committee	3.670	3.669
9	Farm Women Shelf Help Groups	0.500	0.500
	Grand Total	**152.802**	**147.319**

The important State government's development schemes are procurement and distribution of paddy and millets seeds, pulses seeds, cotton seeds, oilseeds seeds, coconut development programmes. The programmes such as procurement and distribution of green manures seeds, BGA, vermicompost are also being implemented in the district. To encourage farmers, a crop yield competition is also being conducted in the district.

Many Central Government schemes are also being implemented in the district. They include mainly Integrated Food grain Development Programme, ISOPOM schemes, Seed village scheme, Crop monitoring schemes, organizing farm women SHGs and so on.

These schemes are implemented mainly to enhance agricultural productivity and production for achieving the agricultural developmental objectives of the district.

4.9. Recommended Interventions

- Interventions such as distribution of hybrid seeds, micro nutrient mixture, green manure, machinery and farm implements for important crops like rice, maize, cumbu, groundnut and cotton. The Integrated Nutrient Management of these crops may be thought of.

- Establishment of State Seed Farms in the district would facilitate the agricultural development particularly through quality seed production and distribution

- Capacity building is essential to promote agricultural development in the district. These may include farmers training and exposure visits, exposure visits of the extension personnel etc.

4.10. Researchable Issues

Considering various issues and constraints limiting the agricultural development in the district, the following issues are identified.

- Constraints to higher yields in important agricultural crops including the yield gap analylsis in Theni district and research priority setting is warranted at present.

- Research on Integrated Nutrient Management, Integrated Pest Management, Integrated Water Management may be further strengthened in the district.

- Evaluation of micro irrigation for different crops and exploring the feasibility of introducing micro irrigation in the district is crucial

- Various watershed development programmes are being implemented in the district over a period of time. The impact of these watershed development programmes on the crop production and productivity may be assessed to know the impacts. This will help in a big way to upscale the most beneficial development structures under the watershed development programmes in the district.

CHAPTER - V

ALLIED SECTORS

Introduction

Activities allied to agriculture *viz.* animal husbandry, fisheries and logging, forestry have the potential for providing significant employment opportunities to rural and urban population. Allied activities provide supplementary occupation to the people besides contributing to Gross State Domestic Product. The dependence on the agricultural sector for supporting livelihood is well known while the allied sectors offer scope for absorbing surplus labour from the agricultural sector. The allied sector has the potential for putting the State's rural economy on a higher growth trajectory.

5.1. Horticulture

Theni district is endowed with agro-climatic conditions conducive for growing a wide range of horticulture corps such as fruits, vegetables, spices, plantation crops, flowers, medicinal and aromatic plants. The important horticultural crops like mango, grapes, banana and coconut are grown predominantly under irrigation. The vegetable crops like tomato, brinjal, onion etc are also grown in the district. For instance, coconuts alone are grown in an area of 15193 hectares under irrigated condition, mango 1124 hectares, grapes 2013 hectares and tomato over an area of 1973 hectares. Thus, horticulture development in the district is crucial.

5.2. Animal Husbandry

Sustained initiatives to augment the production potential of livestock and poultry and to increase the production of milk, egg and meat to cater to the increased demand are to be taken. Theni district has rich livestock wealth. The district possesses all types of livestock like cattle, buffaloes, sheep, goats and poultry. Apart from horse, ponies, pigs and donkeys are also present in large numbers in this district. Donkeys are more prevalent in Cumbum block.

Table 15. Livestock Wealth of Theni District

(in Nos.)

Particulars	Theni	Periyakulam	Andipatty	Myiladum parai	Uthama palayam	Cumbam	Chinnamanur	Bodinaya kanur
Breeder Cattle (in numbers)								
Male	2731	746	822	1093	2727	4277	4873	1401
Female	5120	5218	5960	2785	1917	4977	4046	3613
Total	7851	5964	6782	3878	4644	9254	8918	5014
Buffalos (in numbers)								
Male	115	5	3	380	171	217	130	85
Female	1739	256	292	435	453	1487	1456	232
Total	1854	261	295	815	623	1704	1586	317
Sheep	5770	5774	9580	7462	6054	7864	5898	6445
Goat	6936	8050	11037	18839	8358	11551	4499	8516
Poultry	18261	5845	8581		2057	95096	9797	54905
No of poultry farm	30	25	26		14			10
No of birds in farm	250587	189000	116250	69752	74282	116275	70900	109440
Milk co-op society	20	29	20	50	26		35	35
Milk production (‘000 litres)								
Lush season	264.8	249.9	844.9	682.2	850.9		855.2	408.4
Lean season	250	274.8	651.8	500.5	655.7		790.9	315.8

Source: Statistical Hand Book of Theni District

More than 215 Milk cooperative societies are functioning in this district. Milk production is uniformly achieved in both lush and lean seasons. There are poultry farms in large numbers in all blocks in this district. There are more than a million population of poultry in this district.

5.3. Fisheries

The district has only inland fisheries. The inland fish production is done in two reservoirs *viz.*, Vaigai dam and Manjalar dam. The total fish production during 2006-07 was 29.81 tonnes and the value of total fish production in the district was Rs.6.18 lakhs.

5.4. Credit and Marketing Institutions

More number of agricultural cooperative banks is present in all the blocks of the district. The details of various credit and marketing institutions in the district are presented in Table 16.

Table 16.Credit and Marketing Institutions in Theni District (2006-07)

(in numbers)

Blocks	Nationalised banks	Scheduled banks	Agricultural cooperative banks	Village shandies
Theni	4	1	10	12
Periyakulam	9	3	9	3
Andipatty	3	3	11	1
Myiladumparai	1	4	4	
Uthamapalayam	6	4	10	
Cumbum	6	7	9	2
Chinnamanur	5	1	9	
Bodinayakkanur	1	1	12	15

5.5. Special Projects/Programmes On-going

To develop horticulture sector in the district, the schemes like area expansion programme for mango, banana, cashew, cocoa are being implemented. The specific programmes like organic farming, Integrated Nutrient Management and Integrated Pest Management programmes are also being implemented in the district.

Table 17. Scheme: National Horticulture Mission 2008-09

S.No	Component Proposed to be Executed Under NHM during 2008-09	Area (Ha)	Subsidy Amount (Rs/Ha)	Total Expenditure Amount (Rs.)
1	Mango I year (Area Expansion)	850	11250	9562500
2	Mango II year (Maintenance)	203	4500	913500
3	Aonla I Year (Area Expansion)	550	11250	6187500
4	Aonla II Year (Maintenance)	50	4500	225000
5	Banana I year (Area Expansion)	500	7500	3750000
6	Banana II Year (Maintenance)	423	3000	1269000
7	Cashew I year (Area Expansion)	1000	5625	5625000
8	Cashew II Year (Maintenance)	266.4	2250	599400
9	Cashew III Year (Maintenance)	299	3375	1009125
10	Chilies	100	11250	1125000
11	Cocoa I year (Area Expansion)	700	5625	3937500
12	Cocoa II Year (Maintenance)	201	2250	452250
13	Organic Farming	100	10000	1000000
14	Flowers	40	12000	480000
15	INM/IPM	250	1000	250000
	Total			**36385775**

Table 18. Integrated Horticulture Development Scheme

(Rs in Lakhs)

S.No	Name of the Component	General		SC		Total	
		Phy	Fin	Phy	Fin	Phy	Fin
1	Fruits	50	1.320	22	0.572	72	1.892
2	Vegetables	360	4.422	105	1.370	465	5.792
3	Spices	20	0.100	10	0.050	30	0.150
4	Others	10	0.160	-	-	10	0.160
	Total	**440**	**6.002**	**137**	**1.992**	**577**	**7.992**

Some specific horticultural development schemes such as Integrated Horticulture Development Programmes are implemented for fruits, vegetables, spices and other important horticultural crops. These are implemented including the distribution of hybrid seeds and planting materials at 50 per cent subsidy. The Department of Agricultural Engineering has been implementing various development programmes to solve the problem water and land resources in the district. Some important schemes like Soil Conservation Scheme, Western Ghat Development Programme, Distribution of Agricultural machinery and replacement of old pumpsets are being implemented. These schemes help the district in a big way to solve the problem of land and water resources.

Table 19. Ongoing Schemes of Agricultural Engineering

(Rs. in lakhs)

Sl. No.	Name of the Scheme	Unit	Annual Target 2007-08		Achievement 2007-08	
			Phy.	Fin	Phy.	Fin.
1	**Soil Conservation Scheme**					
	a) Rainwater Harvesting and Run-off Management Programme	Nos.	76	43.000	77	43.000
	b) NABARD	Nos.	107	46.000	107	46.000
		Total	**183**	**89.000**	**184**	**89.000**
2	Western Ghats Development Programme	Ha.	161.650	65.880	171.425	65.880
		Nos.	230		239	

Table.19 Contd…. **(Rs. in lakhs)**

Sl. No.	Name of the Scheme	Unit	Annual Target 2007-08		Achievement 2007-08	
			Phy.	Fin	Phy.	Fin.
3	Distribution of Agricultural Machinery					
	Tractors	Nos.	19	5.700	19	5.700
	Power Tiller	Nos.	5	1.449	5	1.449
	Rotavators	Nos.	6	1.200	6	1.200
		Total	**30**	**8.349**	**30**	**8.349**
4	Replacement of Old Pumpsets					
	a) Special Component –JI	Nos.	36	2.700	36	2.698
	b) Others –JZ	Nos.	260	16.647	260	16.647
		Total	**296**	**19.347**	**296**	**19.345**

5.6. Recommended Interventions for the Development of Allied Sectors

- To promote horticulture development in the district, the interventions such as plant protection measures, irrigation development and forming farmers associations in the district.
- Farmers exposure visit should be organized so as to make them aware of the latest successful technologies
- Introduction of newly developed agricultural machinery and implements
- Promotion of the concept of mechanized villages
- Popularization of Agricultural mechanization through conventional machinery/equipments
- Construction of Water Harvesting Structures
- Water Management works PVC pipe laying, Ground level reservoir
- To promote agricultural marketing in the district, interventions like commodity group formation, market intelligence and dissemination, facilitation of contract farming, training and exposure visits, arrangement of buyer seller meetings, strengthening of market extension centre, strengthening of village shandies, market price surveillance, publicity - regulated market, and market infrastructure activities are proposed.

5.5. Agricultural Credit

5.5.1. Credit Disbursement

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

I. Policy Innovations of Government of India:

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

II. Policy initiatives of Reserve Bank of India:

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

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

III. Policy and Development Initiatives of NABARD:

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

IV. Policy Initiatives of Government of Tamil Nadu:

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

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

Activity wise credit disbursement and projection under agricultural and allied sectors in Theni district is furnished in Table 20.

Table 20. Activity Wise Credit Disbursement and Projections under Agricultural and Allied Sectors in Theni District

(Rs. lakh)

Sectors	2008-09	2009-10	2010-11	2011-12
Crop loan	45073.67	47327.35	49693.72	52178.41
Term loan		0.00	0.00	0.00
Micro Irrigation	1312.05	1377.65	1446.54	1518.86
Land Development	1022.00	1073.10	1126.76	1183.09
Farm Mechanization	2499.33	2624.30	2755.51	2893.29
Plantation & Horticulture	4387.91	4607.31	4837.67	5079.55
Forestry & Waste land Development	150.02	157.52	165.40	173.67
Dairy Development	3447.34	3619.71	3800.69	3990.73
Poultry	358.13	376.04	394.84	414.58
Sheep/Goat/Piggery	97.13	101.99	107.09	112.44
Fisheries	0.00	0.00	0.00	0.00
Storage Godown & Market yards	0.00	0.00	0.00	0.00
Bio-gas	0.00	0.00	0.00	0.00
Sericulture	0.00	0.00	0.00	0.00
Others	414.00	434.70	456.44	479.26
Sub total - Term loan	13687.91	14372.32	15090.94	15845.47
Total Agriculture Credit (1+2)	58761.58	61699.67	64784.66	68023.88
Non Farm sector	6078.12	6382.03	6701.13	7036.18
Other Priority Sector	16210.87	17021.41	17872.48	18766.11
Grand Total	81050.57	85103.11	89358.27	93826.17

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. 85103.11 Rs. 89358.27 and Rs. 93826.17 lakhs respectively. The total flow of agriculture credit in terms of crop loan and term loan in 2011-12 would be Rs. 68023.88 lakhs. The flow of credit for non-farm sector and other priorty sectors in 2011-12 would be Rs. 7036.18 and Rs. 18766.11 lakhs respectively.

CHAPTER - VI

DISTRICT PLAN

Introduction

Agriculture and its allied sector in the district contribute significantly to the growth and development. The development of these sectors will pave way for the employment generation, growth in income, production and productivity and leading to growth and development. Recognizing the importance of developing the agricultural and allied sectors for their perceived ability to contribute significantly to employment generation, growth and development of the district economy and poverty reduction, a district agriculture plan has been prepared and presented here.

The District Agriculture Plan (DAP) for the Theni district was prepared based on the proposals received from the different stakeholders and discussions with officials of different line departments. The tentative plan has been also presented to the Theni District Collector and an interactive meeting was organized involving the officials of line departments and village Panchayat Presidents. Considering the views expressed by the Collector and the different stakeholders, the report has been finalized. The details of the Collector's Meeting held are presented in the Appendix.

6.1. Agriculture

As agriculture is one of the important sectors in the district, a detailed action plan has been prepared considering the existing constrains, and scope for the development of agricultural sector in the district. The detailed action plan for the agriculture in Theni District is presented here. The **total outlay** for components pertaining to rice, maize, cumbu, cotton, groundnut and capacity building is **Rs.131.76.**

Table 21. Proposed Activities and Budget Outlay for Agriculture

Type : Irrigated

(Rupees in Lakhs)

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
I	**Rice**									
1	INM - Distribution of Green manure seeds(Subsidy @ 75 per cent) Rs.18/kg	Tons	4	0.72	5	0.90	6	1.08	7	1.26
2	Distribution of micronutrient mixture (50 per cent) Rs.10/kg	Tons	2.5	0.25	3	0.30	3.5	0.35	4	0.40
3	Biofertilizers (Subsidy @ 50 per cent) Rs.3/Nos	Nos.	50000	1.50	50000	1.50	50000	1.50	50000	1.50
4	Machinery and equipments-paddy transplanters(Subsidy @ 90 per cent)	Nos.	2	0.80	2	0.80	2	0.80	2	0.80
5	Tarpaulins (Subsidy @ 50 per cent) Rs.5000/No.	Nos.	20	1.00	20	1.00	40	2.00	40	2.00
	Total			**4.27**		**4.50**		**5.73**		**5.96**
II	**Maize**									
1	Distribution of hybrid seeds (Subsidy@50 per cent) Rs 50/kg	Tons	2	1.00	2.5	1.50	3	3.00	3.5	3.50
2	Pipelines to carry water (Subsidy@50 per cent) Rs. 20000/-	Nos.	10	2.00	10	2.00	15	3.00	15	3.00
	Total			**3.00**		**3.50**		**6.00**		**6.50**
III	**Cumbu**									
1	Cumbu Seed Distribution (Subsidy 50 per cent) Rs.10/kg	Tons	8	0.80	8	0.80	8	0.80	8	0.80

Table 21 Contd….. **(Rupees in Lakhs)**

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
IV	**Cotton**									
1	Distribution of hybrid BT Cotton (Subsidy)@50 per cent)Rs.1000/Ha	Ha	50	0.50	100	1.00	100	1.00	1.5	1.50
2	Distribution of Micronutrient mixture (Subsidy@50 per cent) Rs.25/kg	Tons	1	0.25	1	0.25	1	0.25	1	0.25
	Total			**0.75**		**1.25**		**1.25**		**1.75**
V	**Groundnut**									
1	Gypsum(Subsidy@50 per cent Rs.1000/ha	Ha	500	5.00	500	5.00	1000	10.00	1000	10.00
2	Distribution of micronutrient mixture (Subsidy@50 per cent) Rs.20/kg	Tons	500	0.10	1000	0.20	1000	0.20	1000	0.20
3	Pipelining to carry water(Subsidy@50 per cent) Rs.20000/Nos.	Nos.	10	2.00	10	2.00	20	4.00	20	4.00
	Total			**7.10**		**7.20**		**14.20**		**14.20**
VI	**Capacity Building**									
1	Farmers Exposure Visits									
a	Withn state (5 Days) 50 Farmers+2 officers @Rs.300/day/Nos.		1	0.75	1	0.75	1	0.75	1	0.75
b	Outside the state – to successful models of agriculture like drip irrigation in Maharashtra (10 days) 50 farmers + officers@Rs.500/day/Nos.		1	2.50	1	2.50	1	2.50	1	2.50

Table 21 Contd….. **(Rupees in Lakhs)**

S.No	Components	Unit	2008-2009		2009-2010		2010-2011		2011-2012	
			No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost	No.of Units	Total Cost
2	Exposure visits to officers – MANAGE Hyderabad, ICRISAT, Hyderabad, IARI New Delhi, Successful NGO's etc (10 officers/time)-10days)@Rs.500/day/Nos.		1	0.50	1	0.50	1	0.50	1	0.50
3	Exposure visits to China to study the advanced production techniques and dissemination practices of rice (including Hybrid rice, SRI etc.,) - 6 officers per time – 10 days)@Rs.5000/day/Nos.		1	6.00	1	6.00	1	6.00	1	6.00
	VII 2 per cent DAP Spray for Pulses	Ha	1200	2.40	-	-	-	-	-	-
	Total			**28.07**		**27.00**		**37.73**		**38.96**

6.1. (a) Support to State Seed Farms

There are Three Farms in Theni District (i) SSF – Keelagudalur (ii) Coconut Nursery – Vaigai Dam and (iii) Coconut Crossing centre at Private Coconut gardens. For farms used for research and seed production purposes assistance may be provided.

i) Name of the Farm

State Seed Farm, Total extent : 47.86 Acres

Keela Gudalur, Theni Dt. Cultivable Extent : 41.00 Acres

(Rupees in lakhs)

S. No	Details	Available Nos	Working Nos	Not Working Nos	Required Nos	Cost per unit	Total amount Required
1	Irrigation facilities						
a	Open Well	1	1	..	..	..	..
b	Bore well (Drinking water)	..	..	..	1	2.5	2.5
c	Electric Motor	1	1	..	..	..	..
d	Oil Engine	1	1	..	..	..	..
2.	Thrashing Floor	2	1	1	1	1.5	3.0
3.	Seed Godowns	4	4	..	Repairing	5.0	5.0
4.	Machinery And implements						
a.	Power tiller	1	..	1	..	..	..
b.	Thrasher	1	..	1	1	1.5	1.5
c.	Tractor	..	..	..	1	5.0	5.0
d.	Sprayer						
i	Hand Operated	..	..	..	..	..	..
ii	Power Operated	2	1	1	1	0.05	0.05
5	Cleaning of Bushes (around the farm boundaries)						1.0
6	Cement / pipelining of irrigation channels						20.0
7	Other items required						
	Farm manger quarter repairing work						2.0
	Watch man & AAO quarters repairing work						2.0
	Clerk quarters repairing work						1.5

(Rupees in lakhs)

S. No	Details	Available Nos	Working Nos	Not Working Nos	Required Nos	Cost per unit	Total amount Required
	Fenching around the farm and office premises						10.0
	New processing machine						10
	Unit building construction						5
	Generator 10 H.P						2
	R.C. Building for storage of harvested paddy during raining season						5
	Meteorological equipments						1
	Farmers discussion and meeting hall with all infrastructure						5

8. Area under cultivation as on date

Sl. No	Details	Area (Acre)	Qty .Produced (MT)
1	Seed Purpose	41.00	60.0
2	Non Seed Purpose	-	-
	Total	**41.00**	**60.0**

9. After strengthening the infrastructure facilities the area under cultivation and production of seeds can be enhanced } 90.M.T.

Summary

A. Civil work : 54.50

B. Machineries & Equipments : 22.50

C. A.V. Aids, Computers and Furniture etc. : 5.00

Total : 82.00 lakhs

ii) Name of the Farm

State Coconut Nursery,
Kovilpatti - Vaigaidam,
Theni Dt.

Total Extent : 15 Acres
Nursery Area : 2 Acre
Barren land : 10 Acre
Buildings & others : 3 Acre

(Rupees in lakhs)

Sl No	Details	Available Nos.	Working Nos.	Not Working Nos.	Required Nos.	Cost per unit	Total amount required
1	Irrigation facilities						
a.	Open Well	1	1	..	..	..	..
b	Bore well	1	1	1	1	2.00	2.00
c	Electric Motor	2	2	..	..	..	..
d	Oil Engine	..	..	..	..	..	..
2.	Thrashing Floor	..	..	..	..	..	..
3.	Seed Godowns	1	1	..	1	2.0	2.0
4.	Machinery and implements	..	..	..	..	..	..
a.	Power tiller	..	..	..	..	..	..
b.	Thrasher	..	..	..	..	..	..
c.	Tractor	..	..	..	..	..	..
d.	Sprayer						
i	Hand Operated	..	..	..	2	1500	0.03
ii	Power Operated	..	..	..	..	..	..
5	Cleaning of Bushes						2.0
6	Cement / pipelining of irrigation channels						20.0
7	Other items required						
	Protection coverage						6.0
	Construction and Modernization						2.6
	Electrical office building works						2.3
	Formation of pathway etc.,						2.0
	Filling with sand for Nursery						6.2
	PVC Pipelining and Modernization						2.0
	Provision of training meeting hall with infrastructure						3.0
	Computer furniture						3.0
	Data Entry Operator						0.60

8. Area under cultivation as on date

Sl. No	Details	Area (Acre)	Qty Produced (Nos)
1	Seed Purpose	2	0.60 Lakhs
2	Non Seed Purpose	-	-
	Total	**2**	**0.60 Lakhs**

9. After strengthening the infrastructure facilities the area that can be brought for cultivation and production of seed / Non seed } 10 Acre increasing. Production increased to 0.85 lakh seedlings.

Summary

Civil works	: Rs. 50.10 lakhs
Machinery and implements	: Rs. 0.03 lakhs
AV aids, computers and furniture	: Rs. 3.60 lakhs
Total	**: Rs. 53.73 lakhs**

6.1(b). Establishment of Seed Testing Laboratory

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 at 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 and hence the purchase of Equipments for the Theni Seed Testing Laboratory is proposed under component 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 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 far 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 Theni district.

i) 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.

ii) 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 that 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.

iii) 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 safe guard 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.

iv) 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 Madurai 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 Theni 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.

v) 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 preview of Seed Certification and that are covered to some extent under seed quality control program can be ensured only by inculcating the practice of sending service samples by seed producers, seed dealers and farmers to seed testing lab. 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, for facilitating the seed producers, seed dealers and farmers establishing Seed Testing Laboratory in the district will be of much use. Accordingly, a Seed Testing Laboratory is proposed to be established in Theni 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 Theni district under National Agricultural Development Programme at a financial outlay of Rs.6.00 lakhs towards provision of laboratory equipments.

i) Proposed

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

ii) 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, Hygrometer to measure temperature and humidity respectively are needed. Trolley (Movable) for transporting sand, Air Conditioner to maintain prescribed temperature is required. Work table and 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.

iii) 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.

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

Sl. No.	Name of the Instrument/Equipment	Approximate Qty required for one lab	Approximate cost per unit rupees	Approximate cost for one lab Rupees
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**

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.

iv) Operation and Maintenance Cost

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.

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 Theni 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.

x) Expected Date of Completion

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

v) 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

i) Problem Focus

- Improper plant protection measures, erratic and indiscriminate uses of plant protection chemicals.
- Improper adoption of post harvest technologies like harvesting, handling and packing of horticulture products.
- Horticulture crop growers are still adopting local methods of cultivation due to poor exposure to high technologies and hence they are not getting the sufficient yield and market prices.
- The farm wastes and vegetables wastes are accumulating without proper disposal and produce bad odour and unhygienic environment.
- Indiscriminate use of inorganic fertilizers leads soil microbes depletion.
- In Muscat grapes field birds damage is high as it is in attractive color.

ii) Goals

1. To increase the area under horticulture crop.
2. To increase the productivity of the horticultural crops.
3. To reduce the wastage through post harvest management like Banana, Bunch cover, Grapes bird net, usage of plastic crates, and mango harvester.
4. To visualize the adoption of high technology in various states by the farmers to update the technical know-how and to bring the confidence on the utility of the technology.
5. To create the confidence over the latest technology evolved by the scientists, by arranging the mega demonstration with all high technology.
6. To minimize the crop loss due to various pest and diseases, adoption of integrated pest of disease management by using package for plant protection.
7. By using various inorganic fertilizers, the soil less become inactive. To increase the microbial activities humic acid may be utilized.
8. Since major area in this district comes under vegetables cultivation, the vegetable waste can be used as feed and in the vermi compost production.
9. Major area in this district is covered by mango, Grapes, Banana and Cashew. For effective marketing and export growers associations may be formed for each crop.

The **total outlay** for components pertaining to Horticulture for four years is **Rs. 805.42 lakhs**. Following are the interventions proposed.

I. Package for plants Protection: @ Rs.3000/Ha

1. Trichodermaviridi	-	3 Kg	-	225/-
2. pseudomonas florecense	-	3 kg	-	300/-
3. Copper oxy chloride	-	1 kg	-	346/-
4. Monocrotophos	-	1 Ltr	-	228/-
5. Carbendazim	-	1 kg	-	336/-
6. Endosulphan	-	1Ltr	-	228/-
7. Ridomill	-	1 Kg	-	789/-
8. Methyldematon	-	1 Ltr	-	323/-
9. Furedon	-	3 Kg	-	225/-
	Total		-	**3000/-**

Supply of chemical and inputs with 50 per cent assistance.

II. Plastic Crates for Vegetable and Fruits Handling and Transport @ Rs.250/crate

Supply of Plastic crates : @ 25 No/ Farmers at 75 per cent assistance for a sum Rs.4687.50 / Farmer.

III. Farm Waste Shredder / Vegetable Waste Shredder : @ Rs.40000/No.

Since it is a newly introduced implement, it can be given at 75 per cent assistance to the farmer.

Demonstration unit can be installed at State Horticulture Farm, Periyakulam under full assistance.

IV. Cashew High Density Planting : @ Rs.9000/-

To Motivate the farmer to adopt high density it is necessary to give full assistance to farmers to develop the method of high density planting in which farmers may get higher yield and production.

V. Borewell with Casting Pipe : @ Rs.1.5 lakhs / Bore

50 per cent assistance to newly dug bore well those who are having electricity connection facilities can be given.

VI. Banana Bunch Cover : @ Rs.10/ Bunch Cover

Banana bunch cover may be supplied to farmers to protect the bunches and to get quality banches @ Rs. 3000 Bunch cover / ha to a maximum 2 ha / farmer at 75 per cent assistance.

VII. Humic Acid / Effective Microbes : @ Rs.400/ha

Humic acid 1 litre / ha per spray, for two spray two litre of humic acid per ha can be given at 50 per cent assistance.

VIII. Grapes Birds Net : @ Rs.1.00 lakhs / ha

Supply of birds net to farmer at 50 per cent subsidy for 1 ha / Farmer to protect grapes fruits from bird damage.

IX. Support System for Crops : @ Rs.1.5 lakhs / ha

For banana, stacking of banana bunches pvc light weight stick can be provided through banana growers association with 75 per cent assistance maximum limit up to 75000 / ha.

X. Banana Corm injector : @ Rs.300/ No

Banana corm injector can be given to farmers at 50 per cent assistance up to 5 nos. / farmers.

XI. Mango Harvester : @ Rs.500/ No

To prevent damage by mechanical injuries while harvesting the fruits, it is suggested to give 4 to 5 mango harvester / Farmer at 75 per cent assistance.

XII. Sales outlet Points in District : (Rent & Infrastructure): @ Rs.2.60 lakhs/ No

For timely supply of quality vegetable seeds to farmers, a sales outlet may be established in phased manner in district headquarters.

XIII. District level Farmers Workshop : @ Rs.400/ day

Every year a seminar may be conducted for major crops like.

1. Mango - September
2. Grapes - October
3. Banana - January

XIV. Interstate Exposure Visit (5 days) : @ Rs.5000/Farmer

Every year four groups of farmer can be taken to exposure visit to near by states with 50 farmers in each group.

XV. 10 ha Mega Demonstrations Plot for the District

For minimum unit area 10 ha the demonstration can be laid out crop wise and implemented as high technology demonstration with the provision of photometer, soil test meter (ph), (Ec) temperature measurement meter, rain gauge, etc. and with necessary crop production technology.

XVI. Enterprising Farmers Association: @ Rs.25 Lakhs / 1

Farming Farmers association crop wise as a units at block level and merging them together to form the district level association for the crops like.

- Banana
- Seedless Grapes
- Seeded Grapes
- Mango
- Betel vine
- Vegetables
- Flowers

XVII. Support for Betel Vine : @ Rs.40000/20 Cent

Since the farmers themselves have to work and establish the vine yard on leased land the establishment cost will be very high. Every year they have to change the fields. Every acre will be utilized by more number of farmers with 1 to 5 cents per farmer.

The following benefits will accrue due to the above interventions.

- The area under horticulture Crop will be increased in this district.
- The production and productivity of horticultural crop will be increased.
- Cultivation will be done with improve and high technologies.
- The quality and quantity of produce will be increased thereby the livelihood of farmer may be uplifted.
- Since the quality of the produces is increased the export potential will increase.

Table 22. Project Component for Horticulture Development

S. No	Product component	Unit / cost	Permitted assistance (per cent)	Amount allowed
1	Package for plant production	Rs.3000/ ha	50	Rs.1500/ha
2	Plastic crates for vegetable, fruits, handling and transport	Rs.250/Crate	75	Rs.187.50/ Crates
3	Farm waste shredder/ vegetable work shredder	Rs.40000/No	75	Rs.30000/No
4	Cashew high density planting	Rs.9000/ha	100	RS.9000/ha
5	Bore well with casing pipe	Rs.1.5 lakh/No	50	Rs.75000/No
6	Banana Bunch cover	Rs.10/ Piece	75	Rs.7.5/Pices
7	Humic acid / effective & microbes	Rs.400/Line	50	Rs.200/Line
8	Grapes bird net	Rs.1.0 lakh/ha	50	Rs.50000/ha
9	Support system for crop			
	a. Banana	Rs.1.5 lakh/ha	75	Rs.1,12,500/ha
10	Banana corm injector	Rs.300/No	50	Rs.150/No
11	Mango harvester	Rs.500/No	75	Rs.375/No
12	Sales out let point in district (Rent & infrastructure)	Rs.2.60lakh/One	100	Rs.2.60lakh/one
13	District level farmers workshop	Rs.400/farmers /day	100	Rs.400/farmers/day
14	Inter state exposure visit 5 days	Rs.5000/farmer	100	Rs.5000/farmers
15	10 ha mega demo plot for district	Rs.25.0lakh/each	100	Rs.15.0 lakhs/ each
16	Enterprising farmers assn	Rs.25.0lakhs/each	100	Rs.25.0lakhs/ each
17	Support for betel vine	Rs.40000/20 cent	50	Rs.20000/20 cent

Table 23. Proposed Activities and Budget Outlay for Horticulture

(Rupees in lakhs)

S. No	Product Component	Unit/cost	2008-09		2009-10		2010-11		2011-12	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Package for plant production @ 50 per cent subsidy	Rs.3000/ha	1200	18.00	1600	24.00	1200	18.00	1200	18.00
2	Plastic crates for vegetable handling and transport @ 75 per cent subsidy	Rs.250/ crates	1200	2.25	1200	2.25	1200	2.250	1200	2.250
3	Farm waste shredder / vegetable waste shredder @ 75 per cent subsidy	Rs.40000/ ha	1	0.300	1	0.300	1	0.300	1	0.300
4	Cashew high density planting @ 100 per cent subsidy	RS.9000/ha	2	0.180	2	0.180	2	0.180	2	0.180
5	Borewell with caring pipe @ 50 per cent subsidy	Rs.1.5 lakh / No	10	7.500	10	7.500	10	7.500	10	7.500
6	Banana Bunch cover 3000 No / ha @ 75 per cent subsidy 22500/ha	Rs.10/pice	50	11.250	100	22.500	150	33.750	200	45.000
7	Humic acid / Effective microber @ 50 per cent subsidy	Rs.400/lir	800	1.600	800	1.600	800	1.600	800	1.600
8	Grapes bird net	Rs.1.0 lakh/ha	50	25.000	50	25.000	50	25.000	50	25.000
9	Support system for crops @ 75 per cent subsidy Banana	Rs.1.5lakh/ ha	50	56.250	50	56.250	50	56.250	50	56.250
10	Banana corm injected @ 50 per cent subsidy	Rs.300/No	100	0.150	100	0.150	100	0.150	100	0.150

Table 23. Contd…… **(Rupees in lakhs)**

S. No	Product Component	Unit/ cost	2008-09		2009-10		2010-11		2011-12	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
11	Mango harvester @ 50 per cent subsidy	Rs.500/No	200	0.500	200	0.500	200	0.500	200	0.500
12	Sales outlet points in district (Rent & infrastructure 100 per cent	Rs.2.60 lakh/No	1	2.60	1	2.60	1	2.60	1	2.60
13	District level farmers workshop	Rs.400/farmers /day	100	0.40	100	0.40	100	0.40	100	0.40
14	Inter state exposure (5days)	Rs.5000/ Farmer / day	200	10.000	200	10.000	200	10.000	200	10.000
15	10 ha mega demo plot for district (each demo 5 ha in two different crops)	Rs.25 lakh/ each	2	25.00	2	25.00	2	25.00	2	25.00
16	Enterprising farmer association	Rs.25 lakh/ each	1	25.00	0	0	0	0	1	25.00
17	Support for betel vine	Rs.40000 / 20 cent	7	14.000	7	14.000	7	14.000	7	14.000
	Total			**199.98**		**192.23**		**197.48**		**233.73**

6.3. Animal Husbandry

Livestock Sector

Strengths

- More loan facilities
- High Consumer preference towards meat and Desi eggs
- Availability of high yielding animals
- Easy marketing

Gap

- Severe green fodder shortage (74.9 per cent)
- Diminishing pasture land.
- High cost of inputs
- Lack of Scientific knowledge awareness in adopting Technologies
- Under utilisation of non conventional feed stuffs
- Lack of awareness of producing clean and quality milk.
- Lack of availability of genetically superior male breeder stocks

Project Rationale /Strategy/Goals

- To augment fertility in cattle
- To increase productivity / production of milk, meat, eggs
- To create self employment among rural mass
- Food and livelihood security
- To ensure health cover door to door
- To produce clean & quality milk
- Capacity building/extension programs

Intervention Areas

- Fodder production – to augment prodn.& product.
- Cold storage facilities for vaccines to ensure health cover.
- Supply of micro nutrients – to augment fert./prod.
- Door to door A.I. service – to enhance ferti.& calf
- Clean and Quality milk production
- Capacity building – to motivate for technology adoption.
- Strengthening the infra structure of Veterinary institution / TANUVAS centres.

The detailed project report for Animal Husbandry is given in Annexure.

Table 24. Proposed Activities and Budget Outlay for Animal Husbandry - 2008-2012

(Rs. in lakhs)

Sl.No	Scheme Components	Unit cost	2008-09		2009-2010		2010-2011		2011-2012		Total	
			No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost
1	**Feed & Fodder Development (Implementing agency: DAH & DDD)**											
	Cattle, Sheep and Goat											
	Augmentation of fodder production (Co3) through Self Help Groups/ Livestock farmers. 10 acre/ block /year for 4 years total 13 blocks (DAH)	0.24	80	18.8	80	18.8	80	18.8	80	18.8	320	75.2
	Fodder development activities(500 acres in 100 IDF villages in each for 2 years & 1850 acres in farmers field (DDD)	0.24	110	25.9	20	4.7	15	3.525	15	3.525	160	37.65
	Provision of chaff cutter @ 1/block / year for SHG/ elite farmers (DAH)	0.1	8	0.8							8	0.8
	Chaff cutters for IDF villages on community basis (Mechanised) (DDD)	0.7	22	15.4							22	15.4
	Chaff cutters for elite farmers (small type) @ Rs. 20,000/- as 100 per cent grant (DDD)	0.2	5	1	5	1	5	1	5	1	20	4
2	**Genetic Upgradation : (Implementing Agency : DAH)**											
	Cattle											
	Identification and traceability of breedable bovine population (DAH)	0	54000	10.8							54000	10.8

Table 24. Contd….. **(Rs. in lakhs)**

Sl. No	Scheme Components	Unit cost	2008-09		2009-2010		2010-2011		2011-2012		Total	
			No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost
	Sheep											
	Distribution of Rams (125 X 4) (DAH)	0.04	125	5	125	5	125	5	125	5	500	20
	Goat											
	Distribution of Bucks (125 X 4) (DAH)	0.04	125	5	125	5	125	5	125	5	500	20
	Poultry											
	Distribution of TANUVAS-Nandanam III birds (DAH)	0.01	500	2.5	500	2.5	500	2.5	500	2.5	2000	10
3	**Improvement of Livestock Health**											
	cattle											
	Mobile Vet. Clinics- 1 / taluk (DAH)	5.85	4	23.4							4	23.4
	Supplementation of min. mix. to prevent infertility and augment production to farmers. @ Rs. 600/cow/ year @ Rs. 50/kg (5000cow/year) (DAH)	0.01	5000	30	5000	30	5000	30	5000	30	20000	120
	Establishment of ADIU (DAH)	24.50	1	24.50							1	24.50
	Supply of mineral mixture to the milch animals at subsidised cost (50 per cent) @ 18 KG/ YEAR (DDD)	0.005	1000	5.00	1000	5.00	1000	5.00	1000	5.00	4000	20.00
	Supply of by-pass protein feed to the milch animals (360KGS/ YEAR/ANIMAL @ 50 per cent subsidised cost of Rs.9/- per KG.) (DDD)	0.033	1100	36.30	1100	36.30	1100	36.30	1100	36.30	4400	145.20
	Sheep and Goat											
	Control of parasitic diseases through treatment to enhance vaccine response (DAH)			19.04		19.04		19.04		19.04		76.16

Table 24. Contd….. **(Rs. in lakhs)**

Sl.No	Scheme Components	Unit cost	2008-09		2009-2010		2010-2011		2011-2012		Total	
			No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost
	Poultry											
	Immunisation against RD for Desi birds (DAH)	0.01	500	2.5	500	2.5	500	2.5	500	2.5	2000	10
4	**Strengthening of DDD, Madruai**											
	Cattle											
	Milking machines for ID Farms (DDD)	1.00	22	22.00							22	22.00
	Portable milking machines for farmers (DDD)	0.18	15	2.70	15	2.70	10	1.80	10	1.80	50	9.00
	Bulk milk cooler (DDD)	30.00	1	30.00							1	30.00
	Walk - in coolers (DDD)	30.00	1	30.00	1	30.00					2	60.00
	Revival of dormant MPCS (DDD)	1.00	8	8.00	8	8.00	7	7.00	7	7.00	30	30.00
	Manufacturing facilities for milk khoa (DDD)	0.77	1	0.77							1	0.77
	Manufacturing facilities for ice cream (DDD)	1.12	1	1.12							1	1.12
	Milk weighing machine for milk producers co-op societies (DDD)	0.17	36	6.12	35	5.95	35	5.95	35	5.95	141	23.97
	P.C. Based automatic milk collection stations to IDF villages milk producers co operative societies (DDD)	1.75	22	38.50	4	7.00	3	5.25			29	50.75
	Quality assurance lab (DDD)	10.00	1	10.00							1	10.00
5	**Extension Facilities**											
	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
	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

Table 24. Contd….. **(Rs. in lakhs)**

Sl. No	Scheme Components	Unit cost	2008-09		2009-2010		2010-2011		2011-2012		Total	
			No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost	No. of units	Total cost
	Institutional development – Strengthening of Vet. Institutions with basic facilities like fencing Bore wells, water troughs, Minor repair works etc. @ RS. 5.0 lakh/ Institution (DAH)	5	20	100							20	100
	Strengthening of training equipments for technology dissemination and training to farmers with laptop computer with printer, teaching aids etc. at TANUVAS centre, Theni (TANUVAS)	10	1	10							1	10
	Training programmes on modern livestock farming Capacity building Training for farmers (TANUVAS)	0	1000	3	1000	3	1000	3	1000	3	4000	12
	Capacity building Training for officers (Vets/ NGOs/ Line dept (TANUVAS)	0.05	50	2.5	50	2.5	50	2.5	50	2.5	200	10
	Establishment of Kiosk at VUTRC for video conference with farmers (TANUVAS)	5	1	5							1	5
	Touch screen facilities (TANUVAS)	1	5	5	5	5	5	5	5	5	20	20
	Field tour for farmers (TANUVAS)	0.25	2	0.5	2	0.5	2	0.5	2	0.5	8	2
	Sheep and Goat											
	Semi intensive sheep/ goat farming to improve meat production by SHGs @ 10 / block (DAH)	0.42	80	33.6	80	33.6	80	33.6	80	33.6	320	134.4
	Poultry											
	Custom hatching units + cage units+ candler (TANUVAS)	0.2	60	12	60	12	60	12	60	12	240	48
	Turkeys (3 +1),Feed and Health cover (SHG) (TANUVAS)	0.03	150	3.75	150	3.75	150	3.75	150	3.75	600	15
	Grand Total			**553.30**		**246.64**		**211.815**		**206.065**		**1217.82**

6.4 Fisheries

Taking into account various gaps existing for development of fisheries sector, various interventions have been proposed to fill up the gaps at an estimated cost of Rs.111.10 lakhs.

Gaps Identified

- Perennial water bodies not utilized properly for fish culture
- Govt. fish seed rearing centre at Manjalar needs renovation
- No self sufficiency in fish seed production
- No private participation in seed production
- No modern retail outlets in this district
- Lack of awareness

Intervention Required Areas

- Repairing & maintenance of fish seed rearing centre at Manjalar
- Encouraging farmers to take up cage rearing of fish seeds by subsidy
- Supply of fishing implements by subsidy
- Improving fish transportation by retail vendors
- Establishment of ornamental fish culture and breeding units.
- Capacity building.

The detailed project report in respect of Animal Husbandry and Fisheries are furnished in Annexure

Table 25. Proposed Activities and Budget Outlay for Fisheries - 2008-2012

(Rs.in lakhs)

Sl. No.	Components	Implementing Agency	Unit cost	Total units	2008-09		2009-10		2010-11		2011-12		Total cost
					Units	Cost	Units	Cost	Units	Cost	Units	Cost	
1	Renovation of nurseries at Manjalar Dam	Fisheries Department	38.00	1	1	38.00							38.00
2	Supply of fishing nets to inland fishermen (50 per cent subsidy)	Fisheries Department	0.06	35	10	0.60	10	0.60	10	0.60	5	0.30	2.10
3	Moped-cum-insulated Ice box for fish marketing (50 per cent subsidy)	TAFCOFED	0.15	30	10	1.50	10	1.50	10	1.50			4.50
4	Cage culture for fish seed rearing (50 per cent subsidy)	Fisheries Department	0.15	10	2	0.30	4	0.60	2	0.30	2	0.30	1.50
5	Development of Fish Landing Centres	Fisheries Department	10.00	2	1	10.00	1	10.00					20.00
6	Retail Outlet	TNFDC	10.00	1	1	10.00							10.00
7	Desilting of Manjalar Dam	Fisheries Department	5 Ha	5	1	5.00	2	10.00	1	5.00	1	5.00	25.00
	Fisheries - Total					**65.40**		**22.70**		**7.40**		**5.60**	**101.10**
1	Farmers training	TANUVAS	0.10	100	25	2.50	25	2.50	25	2.50	25	2.50	10.00
	TANUVAS - Total					**2.50**		**2.50**		**2.50**		**2.50**	**10.00**
	Grand - Total					**67.90**		**25.20**		**9.90**		**8.10**	**111.10**

6.5. Agricultural Engineering

The action plan for the agricultural engineering is prepared under two streams *viz.*, Stream-I and Stream-II.

6.5.1 Stream-I is project-based, funds for implementing the proposals made under stream-I are be as below:

- 50 per cent of the funds will be related as first installment to the state
- 40 per cent of the balance funds will be released when a physical progress of at least 50 per cent of the works proposals is sent to District Agriculture Committee.
- The balance 10 per cent of the funds will be released when the project is completed and field verification is done by a designated agency of the Government of India.

i) Problem Focus

Theni district is located in South-West Tamil Nadu. Farmers in this district are not in a position to use new technology for farming activities such as newly developed agricultural machinery/implements, agriculture mechanization, resource conservation, micro Irrigation System etc. The existing programme funds are not sufficient to implement the new technology farming activity

ii) Rationale

As the aim of National Agriculture Development Programme (NADP) is to achieving four per cent annual growth of agriculture sector, under this programme, agricultural machinery and implements shall be distributed to the farmers to attain more farm productivity and also for labour and time saving.

iii) Project Strategy

To achieve the objective of the NADP, following strategies would be adopted:

- Implementation in a programme mode through active engagement of all the stakeholders at various levels.

- Promotion and extension of improved technologies (ie) introduction of newly developed Agricultural machinery/implements and resource conservation technologies.

iv) Project Goals

By implementing promotion and extension of improved technologies and resource conservation technologies, we can achieve as aim of NADP four per cent annual growth of agriculture sector.

v) Implementation Chart of the Project

All the schemes proposed under NADP will be implemented through the Agricultural Engineering Department.

6.5.2 Stream-II processes are relatively more conventional, Funds for implementing the proposals made under stream-II will be as follows:

- 50 per cent of the central allocation will be released as first installment to the states.

- The release of second and final installment would be considered on the fulfilment of utilization certificates for the funds already released

i) Problem Focus

In Theni district, farmers depend largely on surface water irrigation as well as ground water irrigation. The district has used the surface and ground water potentials to the maximum limit. The existing programme funds are not sufficient to implement the new technology farming activity.

ii) Project Rationale

As aim of Nation Agriculture development programme (NADP) is achieving four per cent annual growth of agriculture sector, under this programme, popularization of Agricultural mechanization through conventional machinery/equipments, protection of soil from raindrop impact, increasing the infiltration capacity of the soils to reduce volume of run-off, rain water conservation, run-off conservation and introducing water management works for effective use of water will be undertaken.

iii) Project Strategy

To achieve the objective of the NADP, following strategies would be adopted.

- To promote and demonstrate the farm mechanization among the farmers, the labour and time saving agricultural machinery and implements shall be distributed to the farmers.
- To harvest the all rainwater without any run-off, constructing farm pond, check-dam, percolation pond, recharge shaft, village tank, collection well.
- To protect fertile top soil from rain drop impact, increasing the infiltration capacity of the soils by constructing compartmental bunding, land development works.
- For effective use of water and increase the irrigated area, introducing water management works like PVC pipe laying, ground level reservoir, fertigation assembly.

iv) Project Goals

By implementing promotion and extension of improved technologies and resource conservation technologies, we can achieve four per cent annual growth of agriculture sector which is the aim of NADP.

Table 26. Agricultural Engineering - Project Components – Stream-I

Sl.No.	Project Component	Pattern of Assistance
1	Introduction of newly developed Agricultural machinery/implements	50 per cent subsidy for unit cost
2	Innovative Water Harvesting Structures: i) Lined farm pond with mobile sprinkler	90 per cent subsidy for unit cost
	ii) Rejuvenation of percolation ponds with 2recharge shafts	100 per cent subsidy for unit cost
3	Promoting the Concept of Mechanized Villages Distribution of crop based package of Agriculture Machinery on cluster basis in the adopted villages 1) Paddy	75 per cent subsidy for one cluster

Table 27. Proposed Activities and Budget Outlay under Stream I (Agricultural Engineering)

(Rupees in lakhs)

Sl. No.	Project Component	Unit Cost	Subsidy per cent	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
	Stream:I												
I	**Introduction of Newly Developed Agrl. Machinery/Implements**												
1	Mini combined Harvester TNAU model	2.50	50	1	1.25	1	1.25	1	1.25	1	1.25	4	5.00
2	Multi crop Thrasher (High capacity)	2.10	50										
3	Power weeder with attachment (all models)	1.00	50	2	1.00	1	0.50	2	1.00	1	0.50	6	3.00
4	Power Thrasher	1.00	50										
5	Paddy Transplanter	1.40	50	1	0.70	1	0.70	1	0.70	1	0.70	4	2.80
6	Post hold digger	0.85	50	2	0.85	2	0.85	2	0.85	2	0.85	8	3.40
7	Shredder (Heavy)	1.00	50										
8	Shredder (Medium)	0.40	50										
9	Maize Husker Sheller	0.90	50	0	0.00	1	0.45	1	0.45	0	0.00	2	0.90
10	Cocount De-husker	0.60	50	2	0.60	2	0.60	2	0.60	2	0.60	8	2.40
11	Ground nut decordicator	0.35	50										
12	Chisel plough	0.12	50										
				8	**4.40**	**8**	**4.35**	**9**	**4.85**	**7**	**3.90**	**32**	**17.50**

Table 27. (Contd…) **(Rupees in lakhs)**

Sl.No.	Project Component	Unit Cost	Subsidy per cent	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
	Stream:I												
13	Power Weeder-Oleo mac	0.65	50	2	0.65	2	0.65	2	0.65	2	0.65	8	2.60
14	Ratoon Manager	1	50										
15	Multi crop Thrasher (Tractor PTO)	1.25	50										
16	Knapsac Power operated Hydraulic Sprayer	0.2	50	5	0.50	5	0.50	5	0.50	5	0.50	20	2.00
17	Shredder (Tractor PTO Operated)	0.85	50										
18	Power Operated Chaff Cutter	0.3	50										
19	Jappanese Yanmar 6-row transplanter with nursery raising system	7.5	50										
20	Jappanese Yanmar 8-row transplanter with nursery raising system	10.5	50										
21	Korean 4-row walk behind transplanter	2	50	1	1.00	1	1.00	0	0.00	0	0.00	2	2.00
22	Combine harvester – Tractor operated	12	50										
23	Combine harvester – Self propelled	16	50										
24	Maize combine harvester	16	50										
25	Gender friendly equipments	0.08	75	20	1.20	20	1.20	30	1.80	30	1.80	100	6.00
	Total			**36**	**7.75**	**36**	**7.70**	**46**	**7.80**	**44**	**6.85**	**162**	**30.10**

Table 27. (Contd…) **(Rupees in lakhs)**

Sl. No.	Project Component	Unit Cost	Subsidy per cent	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
	Stream: I												
II	**Innovative Water Harvesting Structures**												
1	Lined farm pond with mobile sprinkler	3.00	90	2	5.40	2	5.40	2	5.40	2	5.40	8	21.60
2	Rejuvenation of percolation ponds with 2 recharge shafts	1.00	100	5	5.00	5	5.00	5	5.00	5	5.00	20	20.00
	Total			**7**	**5.00**	**5**	**5.00**	**5**	**5.00**	**5**	**5.00**	**20**	**20.00**
III	Promoting the concept of Mechanised villages	Varied	75										
1	Distribution of crop based package of Agrl. Machinery on cluster basis in the adopted villages												
	1. Paddy	31	75	1	23.25	1	23.25	1	23.25	1	23.25	4	93.00
	2. Groundnut												
	3. Maize												
	Total			**1**	**23.25**	**1**	**23.25**	**1**	**23.25**	**1**	**23.25**	**4**	**93.00**
	Stream – I Total				**35.35**		**35.30**		**35.90**		**34.00**		**140.60**

Table 28. Agricultural Engineering - Project Components – Stream-II

Sl.No.	Project Component	Pattern of assistance
1	**2**	**3**
1	Popularization of Agricultural mechanization through conventional machinery/equipments (Power Tiller Rotavator, Disc plough)	25 per cent subsidy for unit cost
2	**Construction of Water Harvesting Structures**	
	Farm Pond	90 per cent subsidy for unit cost
	Checkdam, Percolation Pond Recharge shaft, village Tank	100 per cent subsidy for unit cost
	Collection well	90 per cent subsidy for unit cost
3	Water Management works PVC pipe laying, Ground level reservoir	90 per cent subsidy for unit cost
	Fertigation Assembly	50 per cent subsidy for unit cost

Table 29. Proposed Activities and Budget Outlay under Stream - II (Agricultural Engineering)

(Rupees in lakhs)

Sl.No.	Project Component	Unit Cost	Subsidy per cent	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
Stream: II													
1	**Popularisation of Agricultural Mechanisation through Conventional Machinery / Equipments**												
a	Power Tiller	1.16	25	9	2.61	13	3.77	13	3.77	14	4.06	49	14.21
b	Rotavator	0.90	25	7	1.575	7	1.575	7	1.575	7	1.575	28	6.30
c	Cultivator	0.16	25										
d	Off-set Disc Harrow	0.47	25										
e	Disc Plough	0.35	25	10	0.875	11	0.963	10	0.875	10	0.875	41	3.588
	Total			**26**	**5.06**	**31**	**6.308**	**30**	**6.22**	**31**	**6.51**	**118**	**24.098**
Stream: II													
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	25	7.5	25	7.5	25	7.5	25	7.5	100	30.00
c	Checkdam – Medium	0.75	100	20	15.00	20	15.00	20	15.00	20	15.00	80	60.00
d	Checkdam – Major	1.00	100	50	50.00	50	50.00	50	50.00	60	60.00	210	210.00
e	Percolation Pond	3.25	100	2	6.5	4	13	4	13	3	9.75	13	42.25
f	Recharge Shaft	0.30	100	20	6	30	9	20	6	20	6	90	27.00
g	New Village Tank	1.50	100									0	0
h	Collection Well	0.40	90	5	1.8	2	0.72	3	1.08	5	1.8	15	5.40
	Total			**137**	**93.55**	**146**	**101.97**	**137**	**99.33**	**148**	**106.80**	**568**	**401.65**

Table 29. (Contd…) **(Rupees in lakhs)**

Sl. No.	Project Component	Unit Cost	Subsidy per cent	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost	Nos.	Cost
Stream: II													
3	**Soil Conservation works**												
a	Compartmental bunding	0.03	90	1000	27.00	1400	37.80	1000	27.00	1000	27.00	4400	118.80
b	Land Shaping	0.10	90	100	9.00	100	9.00	150	13.50	150	13.50	500	45.00
c	Terrace Support Wall	0.3	90										
	Total			**1100**	**36.00**	**1500**	**46.80**	**1150**	**40.50**	**1150**	**40.50**	**4900**	**163.80**
	Stream: II												
4	**Water Management works**												
a	PVC Pipe laying	0.15	90	200	27.00	200	27.00	200	27.00	200	27.00	800	108.00
b	Ground level Reservoir	0.8	90	10	7.20	10	7.20	10	7.20	10	7.20	40	28.80
c	Fertigation Assembly	0.12	50	50	3.00	50	3.00	50	3.00	50	3.00	200	12.00
	Total			**260**	**37.20**	**260**	**37.20**	**260**	**37.20**	**260**	**37.20**	**1040**	**148.80**
	Steam-II Total				**171.81**		**192.278**		**183.25**		**191.01**		**738.348**
	Grand Total				**207.16**		**227.578**		**219.15**		**225.01**		**878.898**

6.6. Agricultural Marketing

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

The Government is taking efforts to attain sustainable agricultural development by bringing agriculture as a commercial venture by switching over from the present method of cultivation through adoption of new scientific method of cultivation to increase the productivity to manifold, through 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 per cent, necessary provisions are made in the Agricultural Industrial Policy to ensure remunerative price to the producer, encourage food processing sector and export to earn foreign exchange by increasing the food processing from the present level of one per cent to 10 per cent , out of the total production and increasing value addition from 7 per cent to 30 per cent. Under this policy, all assistance which is provided to other industries will be extended to agro based industries, agricultural machineries and industries manufacturing micro irrigation equipments.

One Deputy Director of Agriculture (Agri Business) for each district, one Agricultural Officer for every two blocks, 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.

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 this requires a move away from 'business as usual'. Under the eleventh Plan, areas identified for special attention in the agriculture sector included among others: (i) diversification to high value crops and activities; (ii) increasing cropping intensity; (iii) strengthening of marketing, processing and value addition infrastructure; (iv) revamping and modernizing the extension systems and encouraging the private sector to provide extension services; and (v) bridging the gap between research and farmers' yields.

For the agriculture sector, the eleventh Plan projected an annual growth rate of four per cent which was seen as achievable if growth of 6 to 8 per cent could be achieved in horticulture. These growth rates have not been achieved 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.

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 produce 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.

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 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.

Service Providers Most 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.

i) 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:

- 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.

- 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.

- 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.

- 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.

- 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.

- 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.

ii) 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.

iii) Project Approach

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

iv) 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

v) Project Components

- Establishment/ organization of commodity groups for marketing in the state with financial assistance from NADP
- Facilitation of Contract Farming between farmers and bulk buyers in the state with financial assistance from NADP
- Dissemination of Market intelligence
- Arrangement of Buyers - Sellers Meet
- Organizing the exposure visits to important markets within the state and out side the state by commodity groups / farmers and extension functionaries.
- Strengthening of market extension centre at each district/ block level for capacity building and dissemination of marketing information.

- Strengthening of selected village shandies with financial assistance from NADP
- Capacity building of farmer's skill
- Price surveillance
- Regulated Market uzhavar Shandies Publicity
- Market Infrastructure

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 into 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 and marketing. To organize these an amount of Rs.20000/- is provided per group.

In this project it is proposed to organize 72 commodity groups in seven commodities for marketing of agricultural commodities in Theni district over the period of four years. This will require resources of Rs16.92 Lakhs 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 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 and 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 not have staying power. Such arrangements are being encouraged to help in reducing price risks of farmers and to also expand the markets for farm products. It is to be noted that contract farming of sugarcane is going on for 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 on 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.

iii) Project Strategy

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

iv) Project Components

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

v) Project Cost and Financing

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

In this project it is proposed to organize the meeting on various crops regarding contract farming between farmers and bulk buyers in Theni district for marketing of agricultural commodities in Tamil Nadu over the period of four years. This will require resources of Rs 9.66 lakhs 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 Marketing 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 adequate samples 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 Theni district over the period of four years. This will require resources of Rs.2.76 Lakhs 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 regime.

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 32 buyers sellers meet in Theni district over the period of four years. This will require resources of Rs.7.36 Lakhs for the period of four years.

6.6.5. Organizing the Exposure Visits to Important Markets within the State and Outside the State by Commodity Groups / Farmers and Extension Functionaries

i) Project Rationale

The goal of 4 per cent growth in agriculture can only be achieved by increasing productivity per unit of land. Considering the costs and constraints of resources such as water, nutrients and energy, the genetic enhancement of productivity should be coupled with input use efficiency. This can be made possible only by creation and utilization of new and improved technology. Since new technology creation and development is a slow process, for attaining the desired four per cent growth during the XIth Plan period, we will have to rely more on known and proven technology. Agriculture research system

claims to have a large number of promising technologies to achieve high growth and promote farming systems that improve natural resource base. However, these are not seen at farmers' fields at large. Visit to other areas, where new technologies are being implemented successfully i.e., exposure visits is an important thing to enlighten the farmers for implementing those technologies in their areas also. It is easy to know the new technology through demonstration. Farmers will be selected to visit different places within the State where the technologies are well adopted. Therefore it is proposed to organize the exposure visit to important markets within the state and outside the state by commodity groups / farmers and extension functionaries in the state for marketing of agricultural commodities in Tamil Nadu over the period of four years.

ii) Project Strategy

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

iii) Project Goals

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

iv) Project Components

1. Organizing the exposure visit to important markets within the state by commodity groups / farmers

2. Organizing the exposure visit to important markets outside the state by commodity groups / farmers

3. Organizing the exposure visit to important markets within the state and outside the state by extension functionaries

v) Project Cost and Financing

Visit to 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.15.823 Lakhs 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 strengthen market extension centre in Theni district over the period of four years. This will require resources of Rs. 11.5 Lakhs 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 Strengthening of Selected Village Shandies with Financial Assistance from NADP

i) Project Rationale

Considering the importance of Rural Primary Markets, there is an urgent need to develop these rural periodic markets in a phased manner with necessary infrastructural amenities to have a strong base of the marketing channel. The task of developing more than 21,000 Rural Periodic Markets is a gigantic one. Therefore, only selected markets will be developed initially and the rest could be developed in phases. The selection of markets is based on economic considerations rather than financial viability in view of their socio-economic importance and equity. Considering the existing constraints in the markets, the modernization should provide for transparent auction system for price discovery of the agricultural produce, bulk weighing arrangement, bulk handling, proper parking, waste disposal, and storage facility. The details of infrastructure needed for an ideal wholesale market are given below:

1. Grading Facilities
2. Price Display Mechanism
3. Electronic Weighing Machine

ii) Project Strategy

Strengthening of selected village shandies through establishing grading facilities, standardization facilities, price display mechanism and providing electronic weighing machines.

iii) Project Components

1. Establishing Grading Facilities
2. Establishing Standardization Facilities
3. Purchasing and Establishing Price Display Mechanism and Electronic Weighing Machines

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. Capacity Building of Farmers' Skill

i) Project Rationale

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

The role of the market as knowledge and information exchange amongst the converging farmers needs to be appreciated and harnessed. Farmers get benefit from deregulation of markets, minimum guaranteed price scheme, contract farming, and crop/income insurance, only to the extent they organize in marketing groups, self-help groups, cooperatives or companies and learn skills suited to the new marketing environment. Understanding quality standards (including FAQ), learning the terms of

contract and insurance, and choosing and preparing the produce for the market are going to be essential skills for farmers. There is a need for greater synergy between extension services and market. State Marketing Departments and Boards, APMCs, Krishi Vigyan Kendras (KVKs), Marketing Cooperatives, NGOs and PRIs should pay increasing attention to train the farmers in marketing related skills. All stakeholders in the Supply Chain (i.e. from farmers to consumers) should be exposed to the following characteristics and complexities of the marketing system to make it more efficient. Hence in this project the following training programmes are proposed with budget requirement of Rs. 29.53 Lakhs.

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

ii) Project Strategy

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

iii) Project Components

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

iv) Project Cost and Financing

In this project it is proposed to organize about 253 trainings under Capacity Building of Farmers Skill and techniques for marketing of agricultural commodities in Theni district over the period of four years. This will require resources of Rs 29.53 Lakhs 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).

6.6.9 Strengthening of Selected Market Infrastructure (Equipments) through NADP Funding

i) Rationale

Considering the importance of different Markets, there is an urgent need to develop these markets in a phased manner with necessary infrastructural amenities to have a strong base of the marketing channel. Suitability and adequacy of marketing infrastructure depends on the type and quantity of marketed surpluses of agricultural produce in the State.

ii) Project Components

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

iii) Project Cost and Financing

In this project it is proposed to strengthen market infrastructure in Theni district over the period of four years. This will require resources of Rs. 26.48 Lakhs 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).

6.6.10. 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 Theni district over the period of four years. This will require resources of Rs. 1.84 Lakhs 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).

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

i) Rationale

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

ii) Project Components

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

iii) Project Cost and Financing

In this project it is proposed to have the publicity programmes with the above components in this district with a financial outlay of Rs. 23 Lakhs over the period of four years.

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).

v) Project Cost

The total cost for development of agricultural marketing so as to increase the profitability of farmers would be Rs.762.57 Lakhs for this district for the eleventh plan period.

vi) 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.

vii) 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.

viii) 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 30 A. Original Project Proposals for Agricultural Marketing and Agri-Business

(Rupees in lakhs)

S. No	Components	2009			2010			2011			2012			
		Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Total
1	**Commodity Group Formation**													
	Paddy	0.2	5	1	0.22	5	1.1	0.24	6	1.44	0.26	6	1.56	5.1
	Maize	0.2	2	0.4	0.22	3	0.66	0.24	4	0.96	0.26	4	1.04	3.06
	Pulses	0.2	1	0.2	0.22	2	0.44	0.24	2	0.48	0.26	2	0.52	1.64
	Vegetables	0.2	2	0.4	0.22	2	0.44	0.24	5	1.2	0.26	7	1.82	3.86
	Mango	0.2	1	0.2	0.22	1	0.22	0.24	2	0.48	0.26	2	0.52	1.42
	Banana	0.2	1	0.2	0.22	1	0.22	0.24	1	0.24	0.26	1	0.26	0.92
	Grapes	0.2	1	0.2	0.22	1	0.22	0.24	1	0.24	0.26	1	0.26	0.92
2	**Market Intelligence Dissemination**													
	MI Dis Printing Leaflets	0.00005	10000	0.5	0.11	5	0.55	0.12	5	0.6	0.13	5	0.65	2.3
	Purchase Mar Materials	0.1	1	0.1	0.11	1	0.11	0.12	1	0.12	0.13	1	0.13	0.46
3	Facilitation of contract farming	0.15	14	2.1	0.165	14	2.31	0.18	14	2.52	0.195	14	2.73	9.66
4	Trainings on													
	Warehousing and Storage	0.1	4	0.4	0.11	6	0.66	0.12	6	0.72	0.13	6	0.78	2.56
	Market Intelligence	0.1	5	0.5	0.11	5	0.55	0.12	6	0.72	0.13	6	0.78	2.55
	Grading	0.1	4	0.4	0.11	6	0.66	0.12	6	0.72	0.13	6	0.78	2.56
	Commodity Markets	0.1	5	0.5	0.11	5	0.55	0.12	6	0.72	0.13	6	0.78	2.55

Table 30 A. Contd…. **(Rupees in lakhs)**

S. No	Components	2009			2010			2011			2012			
		Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Total
	Post Harvest	0.1	5	0.5	0.11	6	0.66	0.12	7	0.84	0.13	7	0.91	2.91
	GAP Food Safety	0.1	5	0.5	0.11	6	0.66	0.12	7	0.84	0.13	7	0.91	2.91
	Banana export	0.1	6	0.6	0.11	6	0.66	0.12	8	0.96	0.13	10	1.3	3.52
	Mango	0.1	5	0.5	0.11	6	0.66	0.12	6	0.72	0.13	8	1.04	2.92
	Value addition Trainings	0.1	10	1	0.11	15	1.65	0.12	15	1.8	0.13	20	2.6	7.05
5	Exposure visit to markets													
	Within State	0.2	2	0.4	0.22	0	0	0.24	0	0	0.26	0	0	0.4
	Outside state	0.75	2	1.5	0.825	0	0	0.9	0	0	0.975	0	0	1.5
	Visit to National Markets	1.5	2	3	1.65	2	3.3	1.815	2	3.63	1.9965	2	3.993	13.923
6	Arrangement of buyer seller meetings	0.2	8	1.6	0.22	8	1.76	0.24	8	1.92	0.26	8	2.08	7.36
7	Streng. of market extension centre	2.5	2	5	2.75		0	3		0	3.25	2	6.5	11.5
8	Streng. of village shandies	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 30 A. Contd…. **(Rupees in lakhs)**

S. No	Components	2009			2010			2011			2012			
		Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Total
9	Market price surveillance	0.1	4	0.4	0.11	4	0.44	0.12	4	0.48	0.13	4	0.52	1.84
10	Publicity - regulated market	5	1	5	5.5	1	5.5	6	1	6	6.5	1	6.5	23
11	Market infrastructure activities	0		0	0		0	0		0	0		0	
	Dunnage	0.025	200	5	0.0275	200	5.5	0.03	200	6	0.0325	200	6.5	23
	Tarpaulin	0.05	10	0.5	0.055	0	0	0.06	0	0	0.065	10	0.65	1.15
	Plastic sheets	0.02	20	0.4	0.022	0	0	0.024	0	0	0.026	30	0.78	1.18
	Plastic trays & boxes	0.005	100	0.5	0.0055	0	0	0.006	0	0	0.0065	100	0.65	1.15
	Total	**12.9001**	**10428**	**33.5**	**14.3**	**311**	**29.48**	**15.615**	**323**	**34.35**	**16.95**	**476**	**47.54**	**144.873**

30 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 (Theni RM)	0	0.00	1	25.00	1	26.00	2	51.00
2	Storage godowns for storing produce under lock and key for few days	1	10.00	1	11.00	1	12.00	3	33.00
3	Construction of new drying yards/renovation of dilapidated ones	10	25.00	10	30.00	10	35.00	30	90.00
4	Construction of new auction halls/modernizing the existing ones (Chinnamanur RM)	0	0.00	1	2.50	0	0.00	1	2.50
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 (Periyakulam RM)	0	0.00	1	10.00	0	0.00	1	10.00
7	Installation of processing units/purchase of new instruments in the premises of the regulated markets								
	(i) Mechanical drier	0	0.00	0	0.00	0	0.00	0	0.00
	(ii) Mechanical winnower	0	0.00	0	0.00	0	0.00	0	0.00
	(iii) Groundnut decorticator	0	0.00	0	0.00	0	0.00	0	0.00
	(iv) Sieving machine	0	0.00	0	0.00	0	0.00	0	0.00
	(v) Cotton Ginning Unit / Pressing Unit	0	0.00	0	0.00	0	0.00	0	0.00
	(vi) Coconut Kernel drying and oil processing units	0	0.00	0	0.00	0	0.00	0	0.00
	(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 30 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	2	5.00	0	0.00	0	0.00	2	5.00
9	Strengthening the Commercial Grading Centres with Laboratory facilities (more numbers can also be included)	2	20.00	3	30.00	3	30.00	8	80.00
10	Strengthening the infrastructure facilities in the Uzhavar Shandies	1	10.00	2	10.00	2	10.00	5	30.00
11	Construction of cold storage facilities in Uzhavar Shandies and in rural godowns	0	0.00	0	0.00	0	0.00	0	0.00
12	Office automation with computer facility for billing etc. in regulated markets	3	3.00	3	3.00	3	3.00	9	9.00
13	Lawying and relawying of village link roads	2	20.00	3	60.00	3	60.00	8	140.00
14	Provision of Oil moisture meters	1	0.85	0	0.00	0	0.00	1	0.85
15	Provision of Oil testing machines	1	3.00	0	0.00	0	0.00	1	3.00
16	Provision of Electronic weighing machines	1	0.25	0	0.00	0	0.00	1	0.25
17	Others if any (Specify) New building Agmark lab	1	10.00	0	0.00	0	0.00	1	10.00
II.	**Publicity and Propaganda**								
1	Market committee-wise strengthening of the Publicity and Propaganda units	0	3.00	0	4.00	0	5.00	0	12.00
2	Market committee-wise purchase of extension education aids	0	3.00	0	3.00	0	3.00	0	9.00

Table 30 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	1	1.00	2	2.00	3	3.00	6	6.00
5	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
III.	**Public relations**								
1	Construction of bus-stop shed un front of the regulated markets and in selected villages (TheniRM)	0	0.00	1	2.00	0	0.00	1	2.00
2	Taking up public relations activities in the villages	0	0.00	0	0.00	0	0.00	0	0.00
3	Construction of common village threshing floors	0	0.00	5	12.50	5	13.00	10	25.50
4	Construction of village common discussion (Chavadi) hall	0	0.00	0	0.00	0	0.00	0	0.00
5	Distribution of tarpaulins to small and marginal farmers	100	5.00	100	5.00	100	5.00	300	15.00
6	Installation of electric light facilities including solar lights in the community threshing floors	0	0.00	5	1.00	5	1.00	10	2.00
7	Construction of over head tanks, laying of street pipelines and provision of public drinking water taps in a village or two wherein the market arrivals are more	0	0.00	0	0.00	0	0.00	0	0.00
8	Provision of Education loan to the children of a few regular customers	0	0.00	3	0.60	5	1.00	8	1.60

Table 30 B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
9	Celebrating the regulated market fortnight in each district (just like co-operative weeks/fortnight)	0	2.00	0	3.00	0	4.00	0	9.00
10	Others if any (Specify)								
IV.	**Facilities to farmers / Stakeholders**	0	0.00	0	0.00	0	0.00	0	0.00
1	Construction of rest/stay rooms for farmers I regulated markets	1	10.00	2	22.00	3	36.00	6	68.00
2	Construction/modernization of the common toiletry facilities in the regulated markets	2	1.00	2	1.00	2	1.00	6	3.00
3	Provision of parking lot facilities in the needy centers	0	0.00	0	0.00	0	0.00	0	0.00
4	Providing drinking water facilities to animals	0	0.00	0	0.00	0	0.00	0	0.00
5	Provision of transport facilities/routing the vehicle to transport commodities to the regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
6	Creating farm inputs retailing facilities	0	0.00	0	0.00	0	0.00	0	0.00
7	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
V.	**Any other innovative interventions (specify)**	0	0.00	0	0.00	0	0.00	0	0.00
	Grand Total	**129**	**132.10**	**145**	**237.60**	**146**	**248.00**	**420**	**617.70**

Budget Abstract

(Rs.in lakhs)

Sl.No.	Particulars	2008-09	2009-10	2010-11	2011-12	Total
A.	Original Project	33.50	29.48	34.35	47.54	144.87
B.	Additional Project DDA(AB) and Market Committee		132.10	237.60	248.00	617.70
	Grand Total	**33.50**	**161.58**	**271.95**	**295.54**	**762.57**

6.7. Water Resources Organisation

It has been proposed to rehabilitate and improve Palayam Paravoo channel and P.T Rajan channel in Uthamapalayam and Theni taluks at the cost of Rs.800 lakhs.Carrying capacity of Shanmutharodai channel is proposed to be increased to 11105 metres at a cost of Rs.150 lakhs. The total cost of the two projects will be Rs.950 lakhs. The action plan for the Water Resources Organisation is presented here.

Table 31.Proposed Activities and Budget Outlay for Water Resources Organisation

(Rs. in lakhs)

Sl.No	Name of the Scheme	Budget Outlay
1	Rehabilitation and improvements to Palayam Paravoo channel and P.T.Rajan channel in Uthamapalayam and Theni taluks	800.00
2	Increasing the carrying capacity of Shanmuthar odai channel from 0 m to 11105 m	150.00
	Total	**950.00**

TAMIL NADU AGRICULTURAL UNIVERSITY

Date: 20.05.2008

PROCEEDINGS

The Theni District Action Plan meeting of the NADP was held on 14.0508, at collectorate Theni. The meeting was chaired by District Collector, Theni and the following officials and panchayat presidents attended the meeting.

1. Dr. S. Natarajan, Dean, Horticultural College & Research Institute, Periyakulam
2. Joint Director of Agriculture, Theni.
3. Deputy Director of Horticulture, Theni.
4. Secretary, Market Committee, Theni.
5. Executive Engineer, Department of Agricultural Engineering, Theni.
6. DDA, Theni.
7. PA (Agri.)
8. Dr. D. Suresh Kumar, Assoc. Prof. (Agrl.Economics)
9. Dr. J. Suresh, Assoc. Prof. (Hort)
10. Dr. J. Amarnath, Professor (Agrl.Economics)
11. Panchayat presidents, Theni District

Agriculture though contributes more than 25% to National Gross Domestic Product (GPD) and supports more than 50% of the work force; the sector is suffering from a slow growth rate. Concerned by this slow growth in agriculture sector, the National Development Council (NDC) decided to launch "National Agricultural Development Programme" (NADP) in May 2007 aimed to accelerate the annual agricultural growth to around 4 percent mainly by increasing the state investment in the agricultural and related sectors.

The following issues were discussed during the meeting.

1. Dr. D. Suresh Kumar, Assoc. Prof. (Agrl. Economics), TNAU, Coimbatore presented the NADP Action plan for Theni District.

2. Recommended area specific crops, encourage farmers association, market support and providing agricultural information at once place.
(Th. Balakrishnan, Ramakrishnapuram) Panchayat, Andipatti Block.)

3. Start commodity groups and regulated markets for specific crops (Th. P.Gopal, Bomminaickanpatti Panchayat, Periyakulam Block)

4. Include Sugarcane in action plan and take measures to revive cotton cultivation (Th. Dhavamani, Oonchampatti, Theni)

5. Development of rain water harvesting structures like storage tanks and check dams. (Th. Thirupathivasagam, T.Renganathapuram, Uthamapalayam Block)

6. Introduce new machines at Village level and make available to all farmers. (Th.Ayyathurai, Muthorai, Andipatti)

7. Equal distribution of schemes to all blocks in the district (Th. Ayyathurai, Muthorai, Andipatti)

8. The JDA, Theni and DDH, Theni answered the question raised by the farmers.

9. Finally all the Panchayat presidents were requested to submit the action plan within a week time to the Join Director of Agriculture, Theni for further compilation.

Dean
HC & RI, Periyakulam

ANNEXURE

DETAILED PROJECT PROPOSALS – ANIMAL HUSBANDRY

I. Feed and Fodder Development

"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, Theni, through, farmers and Self Help Group women entrepreneurs at a total cost of Rs. 75.20 Lakhs. The Aavin, Theni will also take up fodder cultivation activity in the proposed Integrated Dairy Farm (IDF) villages at the total cost of Rs. 37.60 lakhs.

Hand operated chaff cutters will be supplied by the Department of Animal Husbandry, Theni to the SHG farmers at Rs.10,000/- per unit 1/per block and 8 units for 8 blocks at a total cost of Rs 0.8 Lakhs. The Aavin will supply 22 numbers of mechanically operated chaff cutters to the 22 IDF Villages @ Rs. 0.70 Lakhs/unit, at one unit per IDF Village, at a total cost of Rs. 15.40 Lakhs and 20 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. 4.00 Lakhs.

Budget

Sl. No.	Particulars	Amount (Rs. in Lakhs)
1.	Augmentation of fodder production (CO-3) through SHG/women entrepreneurs, Rs. 0.235 Lakhs/acre, 10 acres/block/year, 13 blocks, for 4 years, 320 acres totally (DAH)	75.20
2	Fodder development activities in 100 IDF villages (DDD)	37.60
3	Supply of hand operated chaff cutters to SHG farmers @ Rs.0.10 Lakhs/unit, 1 unit/block/year for 8 units for 8 blocks (DAH)	0.80
4	Provision of mechanically operated chaff cutters, @ Rs. 0.70 Lakhs/unit, for 22 IDF Villages @ one unit/IDFV, 22 units totally (DDD)	15.40
5	Provision of hand operated chaff cutters to elite farmers @ Rs.0.20 Lakh/unit, one unit/farmer, 20 units totally for 20 farmers (DDD)	4.00
	Total	**133.00**

Back ground/Problem Focus

Fodder production in Theni district is not satisfactory and the deficit of green fodder is 74.9 per cent. It is essential to feed the crossbred milch animals with nutrient rich perennial fodder and tree fodder biomass to explore the full genetic potential of the livestock. The present background with regard to dairy, sheep and goat farming in this district is mainly grazing wherever possible, feeding with available greens in the market and feeding the milch animals with polish, bran, oil cakes, cotton seed. Sheep and goat are taken for grazing only. No supplemental feed, grains, concentrate is given to them. So to meet out the fodder requirement of large and small ruminants in order to augment the livestock production the action plan is proposed.

Rationale for this Project

Green fodder production is about 74.9 per cent shortage in Theni district. 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. Green fodder is one of the important and inevitable component in dairy farming and sheep and goat farming. Moreover deficit in green fodder is one of the major causes of infertility and poor productivity. Therefore, enhancement of green fodder production is essential to augment the livestock production. Chopping of fodder will help in the effective utilization of nutrients.

Project Strategy

Based on current background of livestock sector, project strategy is proposed involving Department of Animal Husbandry, Theni District Co-operative Milk Producers Union (the implementing agencies) to achieve the target with technical interventions for the target group namely the rural women, farmers and entrepreneurs. The project strategy is proposed to strengthen the existing infrastructure and expansion of ongoing development scheme of the implementing agencies.

Self Help Groups, interested women entrepreneurs and farmers will be selected from each block by Aavin and Animal husbandry department, Theni. . Fodder slips will be procured from State Agricultural University and members who have water source alone will be selected. They will be supplied with all inputs for fodder production. Training on scientific fodder production will be given to the SHGs. Fodder production will be taken up by Aavin, Theni in IDF Villages.

Hand operated chaff cutters will be supplied by the Department of Animal Husbandry, Theni to the SHG farmers at Rs.10,000/- per unit , one unit per block totally 8units @ 0.8 lakhs. Mechanized chaff cutters @ Rs.0.70 Lakhs per unit will be supplied at one unit per IDFV, 22 units for all the 22 IDFV. This project will be implemented by Aavin, Theni at a total cost of Rs. 15.40 Lakhs. Hand operated chaff cutters will be supplied to elite farmers @ Rs.0.20 Lakh/unit at one unit/farmer as 100 per cent subsidy, for 20 farmers totally at a cost of Rs.4.00 Lakhs.. This project will be implemented by Aavin, Theni.

Project Goals

1. Augmentation of fodder production to meet the fodder shortage
2. Enhancement of nutrient utilization in fodder by use of hand-operated and mechanized chaff cutters to minimize fodder wastage and to enhance the nutrient utilization.
3. Improved fertility in cows.
4. Improved health status.

Project Components

1. Fodder production – 480 acres
2. Provision of mechanized chaff cutters 22 units at IDFV on community basis
3. Provision of hand operated chaff cutters to elite farmers & SHG women – 28 units

Project Cost and Financing

I. Fodder Production

1. Fodder Production by the Department of Animal Husbandry and the Aavin, Theni - 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 13 blocks with 13 SHG @ 10 Acres /Block/year for 4 years, 320 acres totally	75.20
	Total requirement for production of 160 acres of fodder by the Aavin, Theni .	37.60

II. Supply of Chaff Cutters

1. Provision of mechanically operated chaff cutters, @ Rs. 0.70 Lakhs/unit, for 22 IDF Villages @ one unit/IDFV, 22 units totally : 15.40

2. Provision of hand operated chaff cutters to elite farmers @ Rs.0.20 Lakh/unit, 20 units, one unit/farmer, totally for 20 farmers, 100 per cent subsidy : 4.00

3. Provision of hand operated chaff cutters to SHG farmers @ Rs.0.20 Lakh/unit, 50 per cent subsidy, one unit/ block/year, 8 blocks, 8 units totally : 0.80

Implementing 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, 13 blocks, for 4 years, 520 acres totally (DAH)	130 acres	130 acres	130 acres	130 acres
Fodder development activities(500 acres in 100 IDF villages in each for 2 years & 1850 acres in farmers field (DDD)	140 acres	20 acres	15 acres	15 acres
Fodder development activities (for production of fodder seed/slips in dairy or chilling centres & land of DDD (Rs 2.10 lakhs/ unit) (DDD)	10.5 acres	-	-	-
Provision of chaff cutter @ 1/block / year for SHG/ elite farmers (DAH)	13 units	-	-	-
Provision of mechanically operated chaff cutters, @ Rs. 0.70 Lakhs/unit, for 28IDF Villages @ one unit/IDFV, 28 units totally (DDD)	28 units	-	-	-
Provision of hand operated chaff cutters to elite farmers @ Rs.0.20 Lakh/unit, one unit/farmer, 30 units totally for 30 farmers (DDD)	8 units	8 units	7 units	7 units
Establishment of cattle feed plant (DDD) @ Rs. 465.00 lakhs / unit	-	1		-

Reporting

1. Fodder Production

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

2. Provision of Mechanized Chaff Cutters to IDF Villages and Hand Operated Chaff Cutters to SHG and Elite Farmers

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

II. Genetic Upgradation

" Genetic Upgradation of Cattle, Buffaloes, Sheep , Goats and poultry"

Abstract

It is estimated that the district has a total number of 54,000 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. 10.80 Lakhs. The project will be implemented by the Department of Animal Husbandry, Theni.

Superior germplasm – Mecheri rams and Tellicherry bucks will be maintained by 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 Mecheri ram and one Tellicherry buck @ Rs. 4,000/- per ram/buck. A total number of 500 rams and 500 bucks will be supplied at a total cost of Rs. 40.00 Lakhs. The project will be implemented by the Department of Animal Husbandry, Theni.

Nandhanam III birds will be distributed @ Rs. 500/unit for 2000 selected farmers/ SHG women at the total cost of Rs. 10.00 lakhs to improve the poultry production.

Budget

Sl. No.	Particulars	Amount (Rs. in Lakhs)
1.	Tracking the breedable bovine population with an ear tag and a passbook @ Rs.20/- animal, for 54000 animals (DAH and DDD)	10.80
2	Supply of 500 Mecheri rams to the self help groups @ Rs.4,000/- per buck/ram	20.00
3	Supply of 500 Tellicherry bucks to the self help groups @ Rs.4,000/- per buck/ram	20.00
4	Distribution of TANUVAS Nandanam III birds (DAH)	10.00
	Total	**60.80**

Background/ Problem Focus

a. Tracking the Breedable Bovines in the District

It is estimated that the district has a total number of 54,000 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.

b. 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. Poor weight gain and low kidding / lambing rate in sheep and goat are main problems encountered. 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.

c. Distribution of TANUVAS Nandanam III Birds

Nandanam III birds will be distributed to the selected farmers/ SHG women to improve the poultry production.

Project Rationale

a. Tracking the Breedable Bovines in the District

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.

b. Genetic Upgradation of Sheep and Goats

Almost more than 90 per cent of the poor families in Theni district are small, marginal and landless farmers and are mainly dependent in meagre local breeds of sheep and goats for their livelihood. Since the poor farmers are possessing local breeds, due to weight gain and low kidding/ lambing rate, farmers are getting only meagre income out of their sheep and goats. So genetic upgradation of local breeds using elite rams and bucks will improve their germplasm. In turn there will be increase weight gain and kidding rate / lambing rate. Cross-breeding of the non-descript sheep and goats with such superior germplasm will augment mutton and chevon production in the district.

d. Distribution of TANUVAS Nandanam III Birds

Nandanam III birds will be distributed to the selected farmers/ SHG women to improve the poultry production.

Project Strategy

a. Tracking the Breedable Bovines in the District

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. 10.80 Lakhs.

b. Genetic Upgradation of Sheep and Goats

Mecheri rams and Tellicherry 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 Mecheri ram and one Tellicherry buck @ Rs. 4,000/- per ram or buck. Totally 500 sheep farmers and 500 goat farmers will be selected for four years period and 1000 elite rams and bucks will be supplied with the total cost of Rs.40.00 lakhs.

d. Distribution of TANUVAS Nandanam III Birds

Totally 2000 SHG women/ farmers will be identified and Nandhanam III birds will be distributed with the total cost of Rs. 10.00 lakhs.

Each unit consisting of 9 hens and a cock will be provided to the beneficiaries. The cost of one bird is Rs.50/- and thus the total cost per unit is Rs.500/-

Project Goals

- Tracing the breedable bovines in the district.
- The existing germplasm may be improved through incorporation of superior germ plasm by supplying elite bucks and rams for cross breeding purpose .
- Avoiding inbreeding
- Improved weight gain of sheep and goats
- Improved kidding /lambing rate.
- Increased mutton and chevon production
- Improvement in poultry production.

Project Components

1. Animal card distribution to the owners of breedable cattle
2. Sheep and goat farmers / SHG women will be identified by DAH .
3. Distribution of elite bucks.
4. Distribution of elite rams.
5. Distribution of TANUVAS – Nandanam III birds for 2000 SHG women

Project Cost and Financing

(Amount in Rs. Lakhs)

Activity	2008-2009	2009-2010	2010-2011	2011-2012	Total Cost
Tracking the breedable bovine population with an ear tag and a passbook @ Rs.20/- animal, for 54,000 animals (DAH, DDD)	10.80	-	-	-	10.80
Distribution of Mecheri rams to the self help groups @ Rs.4,000/- per ram (DAH)	5.00	5.00	5.00	5.00	20.00
Distribution of Tellicherry bucks to the self help groups @ Rs.4,000/- per buck (DAH)	5.00	5.00	5.00	5.00	20.00
Distribution of TANUVAS Nandanam birds (DAH) Each unit consisting of 9 hens and a cock will be provided to the beneficiaries. The cost of one bird is Rs.50/- and thus the total cost per unit is Rs.500/-	2.50	2.50	2.50	2.50	10.00
Total	**23.30**	**12.50**	**12.50**	**12.50**	**60.80**

Implementation Chart of the Project

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Tracking the breedable bovine population with an ear tag and a passbook	54,000 cows	-	-	-
Supply of Mecheri rams to the self help groups	125 animals	125 animals	125 animals	125 animals
Supply of Tellicherry bucks to the self help groups	125 animals	125 animals	125 animals	125 animals
Distribution of TANUVAS Nandanam III birds	500 Units	500 Units	500 Units	500 Units

Reporting

a. Tracking the Breedable Bovines in the District

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

b. Genetic Upgradation of Sheep and Goats

The Regional Joint Director of Animal Husbandry, Theni will implement the scheme and periodical monthly reports will be submitted to the appropriate authorities.

d. Distribution of TANUVAS Nandanam III Birds

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

III. Improvement of Livestock Health

Abstract

To provide comprehensive livestock health cover including immunization against important viral, bacterial diseases and to cover almost all animals including poultry to protect livestock and poultry from diseases and overall improvement in health mobile veterinary clinic will be established in 4 taluks at the total cost of Rs. 23.40 lakhs

To maintain livestock health, micronutrients and mineral mixture are to be supplied. Mineral mixture will be supplied to the dairy cows through the Department of Animal Husbandry, Theni to the small farmers at Rs.600/- per cow per year (One kg/animal/month, 12 kg for one year, @ Rs.50/kg) at subsidized rate @ 5000 farmers per year, for 4 years.

One ADIU will be established to diagnose the animal at the total cost of Rs. 24.50 lakhs.

A total of 20,000 cows will be supplemented with mineral mixture at a total cost of Rs.120.00 Lakhs. The Aavin, Theni will supply mineral mixture to the milch animals of the society members at subsidized cost (50 per cent subsidy) @ Rs. 500/- for 18 kg per year/cow, A total number of 4000 animals will be benefited at a total cost of Rs. 20 Lakhs.

The Aavin, Theni will supply by-pass protein feed to the milch animals of the members of the society (360 kg/animal/year) for 5600 cows @ 50 per cent subsidy of Rs.9/- per kg. The total cost will be Rs. 145.20 Lakhs. Control of parasitic diseases to enhance vaccine response in sheep and goat will be carried out at the cost of Rs. 76.16 lakhs and desi birds will be immunized against Ranikhet disease at the cost of Rs. 10.00 lakhs.

Budget

(Rupees in Lakhs)

Sl. No.	Activity	Cost
1	Mobile Vet. Clinics- 1 / taluk (DAH)	23.40
2	Supplementation of min. mix. To prevent infertility and augment production to farmers. @ Rs. 600/cow/ year @ Rs. 50/kg (5000 cow/year) (DAH)	120.00
3	Establishment of ADIU (DAH)	24.50
4	Supply of mineral mixture to the milch animals at subsidized cost (50 per cent) @ 18 KG/ YEAR (DDD)	20.00
5	Supply of by-pass protein feed to the milch animals (360KGS/ YEAR/ANIMAL @ 50 per cent subsidized cost of Rs.9/- per KG.) (DDD)	145.20
6	Control of parasitic diseases through treatment to enhance vaccine response (DAH)	76.16
7	Immunization against RD for Desi birds Rs. 500 / unit (DAH)	10.00
	Total	**419.26**

Background / Problem Focus

Even though veterinary dispensaries and sub centres are located in rural and semi urban areas there are still villages which are beyond the reach of veterinary services. Hence mobile veterinary clinic facility will help to provide comprehensive livestock health cover and to protect livestock and poultry from diseases and overall improvement in health. For timely diagnosis and containing the livestock diseases, it is essential to protect the animals from diseases. So establishment of ADIU is essential.

Further almost all the domestic animals are deficient in micro nutrients since most of the animals are allowed only for grazing especially sheep and goat. For better digestibility of feed consumed and also to satisfy the micro nutrient requirements it is proposed to supplement the livestock with mineral mixture. Economical production of milk depends largely upon efficiency of animals, its nutrition and management.

Project Rationale

The landless agricultural labourers and small farmers who own the cattle are unable to take their livestock to the nearest veterinary institution as they are pre-occupied in agricultural work. Further, the agricultural labourers have to forego half a day work in bringing their livestock to the veterinary institution /sub centres for treatment or artificial insemination.

In order to avoid such suffering and loss to the farmers and to provide veterinary services and breeding support in time at the doorsteps of the farmers, Mobile Veterinary Clinics are proposed . Dairy cattle requires at least 17 minerals in their diet for optimal milk production, reproductive performance and herd health.

Infertility, poor health status due to mineral deficiency is common in the dairy cattle and small ruminants. As milk producing ability increase, more minerals in their ration is needed and hence their adequate level should be ensured in feed to achieve optimum performance and herd health.

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

Improper and irregular vaccination of poultry leads death of desi birds which causes economic loss to the poor farmers. So immunization against RD for desi birds and turkeys is important to avoid mortality in poultry. Timely diagnosis of livestock diseases is essential to safeguard the livestock from death and to avoid economic loss to the farmers.

Project Strategy

Mobile veterinary clinic facility will be established to provide comprehensive livestock health cover and to protect livestock and poultry from diseases and overall improvement in health. Further almost all the domestic animals are deficient in micro nutrients since most of the animals are allowed only for grazing especially sheep and goat.

For better digestibility of feed consumed and also to satisfy the micro nutrient requirements it is proposed to supplement the livestock with mineral mixture. Economical production of milk depends largely upon efficiency of animals, its nutrition and management. laboratory facility will help in disease diagnosis, disease mapping and disease forecasting easily and quickly. Supplementing livestock with micro nutrients would ensure their optimal health cover. Immunization against Newcastle disease is proposed.

Project Goals

Farmers in remote villages can get veterinary assistance and breeding support at their villages itself. To provide optimum health cover to livestock and poultry including immunization for Ranikhet disease. It is proposed to supplement the livestock with micro nutrients which will result in optimum performance of livestock and poultry which will ensure improved productivity and production.

To increase milk production and also to produce clean, quality milk effectively and economically. Providing mineral mixture daily will enhance milk production, reduce breeding problem and will reduce intercalving period.

Project Components

- Mobile Veterinary Clinics

Non-recurring Expenditure

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

Recurring Expenditure

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

- ADIU

Establishment of ADIU

Equipment	-	9.0 lakhs
Furniture	-	0.5 lakhs
Chemical& glasswares	-	1.0 lakhs
Office equipments	-	1.0 lakhs
Vehicle fitted with equipment	-	12.0 lakhs
Fuel, oil, maintenance & stationeries	-	1.0 lakhs
Total	-	**24.50 lakhs**

- Popularizing Mineral mixture by supplying at subsidized cost
- Supplementation of micronutrients in the feed of dairy cows and goats to enhance production and fertility.
- Supply of by-pass protein to milch animals to enhance production.
- Control of parasitic diseases

Project Cost and Financing

(Rs. in Lakh)

Activity	2008-2009	2009-2010	2010-2011	2011-2012	Total Cost
Mobile vet. Clinic 1/ taluk (DAH) Rs. 5.85 lakhs/ unit	23.40	-	-	-	23.40
Mineral mix @ Rs. 600/cow/year @ RS. 50/ kg (5000 cow/year) (DAH)	30.00	30.00	30.00	30.00	120.00
Establishment of ADIU@ Rs. 24.5 lakhs	24.50	-	-	-	24.50
Supply of mineral mixture to the milch animals at subsidized cost (50 per cent) @ 18kg/ year (DDD) @ RS. 500/unit	5.00	5.00	5.00	5.00	20.00

(Rs. in Lakh)

Activity	2008-2009	2009-2010	2010-2011	2011-2012	Total Cost
Supply of By-pass protein feed to the milch animals (360kgs/year/animal @ 50 per cent subsidized cost of Rs. 9/-per kg (DDD) @ Rs. 3300/unit	36.30	36.30	36.30	36.30	145.20
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 for 4 years (24057 calves, 52247 sheep and 83454 goats) (DAH)	19.04	19.04	19.04	19.04	76.16
Immunization against RD for Desi birds Rs. 500 / unit (DAH)	2.50	2.50	2.50	2.50	10.00
Total	**140.74**	**92.84**	**92.84**	**92.84**	**419.26**

Implementation Chart of the Project

Works proposed	2008-09	2009-10	2010-2011	2011-2012
Mobile vet. Clinic (DAH)	4	-	-	-
Supplementation of Min. mix. for cows (DAH)	5000 animals	5000 animals	5000 animals	5000 animals
Establishment of ADIU (DAH)	1	-	-	-
Supply of Min. mixture at subsidized cost (DDD)	1000 animals	1000 animals	1000 animals	1000 animals
Supply of Bypass protein (DDD)	1100 animals	1100 animals	1100 animals	1100 animals
Control of parasitic diseases through treatment to enhance vaccine response (DAH)				
Immunization of desi birds against RD (DAH)	500 Unit	500 Unit	500 Unit	500 Unit

Reporting

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

IV. Strengthening of Aavin, Theni

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

Abstract

Twenty-two milking machines will be provided to the Integrated Dairy Farms at one unit per IDF Village at a total cost of Rs. 22 Lakhs @ Rs. 1.0 Lakh/unit. Fifty portable milking machines will be supplied to the members of the society at a total cost of Rs.9.0 Lakhs @ Rs.0.18 Lakhs/unit. Provision of milking machines will help to improve the collection and quality of milk.

One bulk milk cooler will be established @ Rs. 30.0 lakhs to improve the keeping quality of milk until it is processed. Two unit of walk-in-cooler will be established at a total cost of Rs. 60.0 Lakhs. A total number of 30 dormant societies will be revived with necessary inputs @ Rs.1.0 Lakh per unit at a total cost of Rs. 30 Lakhs.

One khoa manufacturing unit at the cost of Rs.0.77 Lakhs and one ice-cream making units at the cost of Rs. 1.12 Lakhs will be established to promote value-addition of milk.

A total of 141 numbers of milk weighing machines will be established at milk producers' co-operative societies for accurate weighment of milk at a total cost of 23.97 Lakhs. A total number of 29 PC-based automatic milk collection stations will be established at IDF villages and milk producers' co-operative societies at a total cost of Rs.50.75 Lakhs @ Rs.1.75 Lakhs/unit. A quality assurance laboratory will be established at a total cost of Rs. 10.0 Lakhs.

Budget

Particulars	Amount (Rs. in laksh)
Milking machines for ID Farms (DDD @ Rs. 1.00 lakh/farm	22.00
Portable milking machines for farmers (DDD) @ Rs. 18,000/ unit)	9.00
Bulk milk coller (DDD) @ Rs. 30 lakh/ unit	30.00
Walk in coolers(DDD) @ 30 lakhs/unit)	60.00
Revival of dormant MPCS (DDD) @ Rs. 1 lakh/unit	30.00
Manufacturing facilities for milk khoa (DDD) @ Rs. 0.77 lakh/unit	0.77
Manufacturing facilities for Icecream (DDD) @ RS. 1.12 lakh/unit	1.12
Milk weighing machine for milk producers co- op. societies (DDD) @ Rs. 17,000/unit)	23.97
P.C based automatic milk collection stations to IDF villages (DDD) @ 1.75 lakh/ unit	50.75
Quality assurance lab (DDD) @ Rs. 10 lakh/unit	10.00
Total	**237.61**

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.

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 30 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, and ice-cream have to be strengthened to utilize surplus milk during certain seasons. Also this will meet 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.

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 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. The quality assurance laboratory at the Aavin main dairy will be strengthened with certain basic facilities for assessment of milk quality at different stages of processing and marketing.

Project Strategy

Milking machines for ID farms, Portable milking machines for farmers, bulk milk coolers, walk in coolers, revival of dormant MPCs, manufacturing facilities for milk khoa, icecream, milk weighing machine for milk producers co- op, societies, P.C based automatic milk collection stations to IDF and MMPO laboratory will be developed.

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 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. Improvement of quality standards for milk and milk products, prevention of adulteration, analysis of statutory samples and third party samples for quality through establishment of quality assurance laboratory

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**

Project Components

- Milking machines
- Bulk milk cooler
- Walk in coolers
- Manufacturing facilities for milk khoa
- Manufacturing facilities for icecream
- Milk weighing machine
- P. C based automatic milk collection stations. MMPO laboratory

Project Cost and Financing

(Rs. in Lakhs)

S. No	Project	2008 -09	2009 -10	2010 -11	2011 -12	Total Cost
1	Milking machines for ID Farms (DDD @ Rs. 1.00 lakh/farm	22.00	-	-	-	22.00
2	Portable milking machines for farmers (DDD) @ Rs. 18,000/ unit)	2.70	2.70	1.80	1.80	9.00
3	Bulk milk coller (DDD) @ Rs. 30 lakh/ unit	30.00	-	-	-	30.00
4	Walk in coolers (DDD) @ 30 lakhs/unit)	30.00	30.00	-	-	60.00
5	Revival of dormant MPCS (DDD) @ Rs. 1 lakh/unit	8.00	8.00	7.00	7.00	30.00
6	Manufacturing facilities for milk khoa (DDD) @ Rs. 0.77 lakh/unit	0.77	-	-	-	0.77
7	Manufacturing facilities for Icecream (DDD) @ RS. 1.12 lakh/unit	1.12	-	-	-	1.12
8	Milk weighing machine for milk producers co- op. societies (DDD) @ Rs. 17,000/unit)	6.12	5.95	5.95	5.95	23.97
9	P.C based automatic milk collection stations to IDF villages (DDD) @ 1.75 lakh/ unit	38.50	7.00	5.25	0.00	50.75
10	Quality assurance lab (DDD) @ Rs. 10 lakh/unit	10.00	0.00	0.00	0.00	10.00
	Total	**149.21**	**53.65**	**20.00**	**14.75**	**237.61**

Implementation Chart of the Project

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Milking machines for ID farms	22 units	-	-	-
Supply of portable milking machines to members of the Society	15units	15 units	10 units	10 units
Provision of bulk milk cooler	1 unit	-	-	-
Provision of a walk-in-coolers	1 unit	1 unit	-	-
Revival of 30 dormant milk producers' co-operative societies	8 societies	8 societies	7 societies	7 societies
Establishment of four khoa manufacturing units	1 unit	-	-	-
Establishment of one ice-cream manufacturing unit	1 unit	-	-	-
Supply of 141 milk weighing machines to milk producers' co-operative societies	36 units	35 units	35 units	35 units
Provision of PC-based automatic milk collection stations to IDF villages and milk producers' co-operative societies	22 units	4 units	3 units	-
Quality Assurance Laboratory	1	-	-	-

Reporting

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

VI. Extension Facilities

"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, Training for Technical staff and Dairy Farmers"

Abstract

Farmers study tour @ Rs. 5000/ per farmer will be carried out at the total cost of Rs.7.50 lakhs. Orientation training/ workshop for milk producers at society level will be conducted @ Rs. 0.20 lakh/ programme at the total cost of Rs. 3.20 lakhs. For institutional development Rs. 100 lakhs, strengthening of TANUVAS centre with training equipments for training and technology dissemination will be carried out at the total cost of Rs. 10 lakhs. To conduct training programmes to empower knowledge of stake holders, to impart skill, to transfer technologies Rs. 12 lakhs will be utilized. Capacity building training for officers will be conducted at the total cost of Rs. 10 lakhs. One Kiosk at TANUVAS training centre will be established at the total cost of Rs. 5.00 lakhs. Touch screen facilities will be established at the total cost of Rs. 20.00 lakhs @ Rs. 1 lakh/unit. Eight field tours will be conducted for the farmers at the total cost of Rs. 2.00 lakhs. Semi intensive sheep/ goat farming to improve meat production will be established at the total cost of Rs. 134.40 lakhs. To popularize turkey rearing among SHG women turkeys will be given at the total cost of Rs. 15 lakhs and custom hatching units, cage nits and candler at the total cost of Rs. 48.00 lakhs.

Budget

(Rupees in Lakhs)

Activity	Total Cost
Farmers study tour @ RS. 5000/ per farmer (DDD)	7.50
Orientation training/workshop for milk producers at society level (DDD) @ Rs. 0.20 lakh/ programme	3.20
Institutional development – Strengthening of Vet. Institutions @ RS. 5.0 lakh/ institution (DAH)	100.00
Strengthening of training equipments for technology dissemination and training to farmers at TANUVAS centre, Theni (TANUVAS)@ Rs. 10.00 lakhs	10.00

(Rupees in Lakhs)

Activity	Total Cost
Training programmes on modern livestock farming for farmers TANUVAS) @ Rs. 300/ farmer	12.00
Capacity building training for officers (Vets/ NGOs/ Line dept staff (TANUVAS) @ Rs. 5,000/ staff	10.00
Establishment of Kiosk at VUTRC for videoconference with farmers (TANUVAS) @ RS. 5.0 lakh/ unit	5.00
Touch screen facilities (TANUVAS) @ RS. 1 lakh/ unit	20.00
Field tours for the farmers (RS. 25,000/ tour)	2.00
Semi intensive sheep/goat farming to improve meat production by SHGs @ 10/block (DAH @ Rs. 0.42 lakh/unit)	134.40
Custom hatching units + cage units+ candler (Rs. 20000/ unit)	48.00
Turkeys (3 females + 1 male = 1 unit) feed and health cover (SHG) TANUVAS) @Rs. 2500 / unit	15.00
Total	**367.10**

Background/ Problem Focus

Capacity building exercises are offered to rural farmers, women, officers, entrepreneurs, NGOs by many agencies. To empower large sectors of the stake holder and to update their knowledge on advanced, user friendly technologies, communication tools and other extension facilities are proposed for training thousands of farmers, rural women and officers.

Project Rationale

To ensure quality in milk .To empower stake holders, officers on recent advances in technology and user friendly technologies like touch screen facility for easy access.

Project Strategy

As the rural poor follow only traditional methods of livestock rearing and do not have adequate experience in the best practices in animal husbandry activities, exposure to modern and scientific animal rearing is rather limited, the project will adopt the strategy of awareness creation, group mobilisation and motivation and capacity building. Knowledge sharing, capacity building exercise for farmers, women, officers, etc. will be carried out by Tamilnadu veterinary and Animal Sciences University, Department of Animal Husbandry and Aavin. Intensive system of model sheep/goat unit will motivate the farmers to adopt such technologies for sustainable and economically viable farming wherever possible. To popularize turkey rearing among rural women, supply of turkeys with some feed is proposed. This will fetch them a satisfactory profit during festive seasons.

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.

Intensive system of model sheep/goat unit will motivate the farmers to adopt such technologies for sustainable and economically viable farming wherever possible. Sheep/Goat rearing will become a sustainable alternative livelihood opportunity which can supplement the income generation activities of the rural farmers thereby additional income can be generated on a sustainable basis.

Improvement in nutritional standards of the rural people.

Enlightening the technical staff and dairy farmers on latest developments in the dairy industry through training programmes and study tours.

Project Components

- Strengthening of TANUVAS centre through Infrastructure development for training/ extension programmes including Audio visual / communication tools

S. No	Scheme Component	Unit cost	No of Units /year	2008-09	2009-10	2010-11	2011-12	Total units	Total cost
1	Strengthening of TANUVAS centre with facilities for transfer of technology - Training								
	1. Van	7.50	1	7.50	-	-	-	1	7.50
	2. LCD projector with laptop computer	1.35	1	1.35	-	-	-	1	1.35
	3. P.A. system	0.25	1	0.25	-	-	-	1	0.25
	4. Digital video camera	0.25	1	0.25	-	-	-	1	0.25
	5. Generator	0.50	1	0.50	-	-	-	1	0.50
	6. Charts & displays	0.15	1	0.15	-	-	-	1	0.15
	Total	**10.00**	-	**10.00**	-	-	-	-	**10.00**

- Training farmers and officers
- Specialised training to field veterinarians and officers.
- Field tours of farmers
- Touch screen facilities
- Distribution of turkeys (3+1) & 10 kg feed + health cover

Project Cost and Financing

(Amount in Rs. Lakhs)

Activity	2008-2009	2009 -2010	2010-2011	2011-2012	Total Cost
Farmers study tour @ Rs.5000 per farmer 150 farmers for 4 years (120 farmer for first three years and 30 farmers for fourth year) (DDD)	2.00	2.00	2.00	1.50	7.50
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	0.80	3.20
Strengthening of 20 veterinary institutions with basic facilities like fencing, provision of bore-wells, water troughs and minor repair works @ Rs.5.00 Lakhs/unit (DAH)	100.00	-	-	-	100.00
Strengthening of training equipments for technology dissemination and training to farmers at TANUVAS centre, Theni (TANUVAS)@ Rs. 10.00 lakhs	10	-	-	-	10.00
Training programmes on modern livestock farming for farmers TANUVAS) @ Rs. 300/ farmer for 4000 farmer for 4 years	3.00	3.00	3.00	3.00	12.00
Capacity building training for officers (Vets/ NGOs/ Line dept staff (TANUVAS) @ Rs. 5,000/ staff	2.50	2.50	2.50	2.50	10.00
Establishment of Kiosk at VUTRC for videoconference with farmers (TANUVAS) @ RS. 5.0 lakh/ unit	5.00	-	-	-	5.00
Touch screen facilities (TANUVAS) @ Rs. 1 lakh/ unit	5.00	5.00	5.00	5.00	20.00

(Amount in Rs. Lakhs)

Activity	2008-2009	2009-2010	2010-2011	2011-2012	Total Cost
Field tours for the farmers (Rs. 25,000/ tour)	0.50	0.50	0.50	0.50	2.00
Semi intensive sheep/goat farming to improve meat production by SHGs @ 10/block (DAH @ Rs. 0.42 lakh/unit)	33.60	33.60	33.60	33.60	134.40
Custom hatching units+cage units+ candler (RS. 20000/ unit)	12.00	12.00	12.00	12.00	48.00
Turkeys (3 females + 1 male = 1 unit) feed and health cover (SHG) TANUVAS) @Rs. 2500 / unit	3.75	3.75	3.75	3.75	15.00
Total	**178.15**	**63.15**	**63.15**	**62.65**	**367.10**

Implementation Chart of the Project

Works proposed	2008-2009	2009-2010	2010-2011	2011-2012
Farmers study tour	40	40	40	30
Orientation training/workshop for milk producers	4	4	4	4
Institutional development	20	-	-	-
Strengthening of TANUVAS centre with training equipments for technology transfer	1	-	-	-
Training programmes on livestock farming	1000 farmers	1000 farmers	1000 farmers	1000 farmers
Capacity building training for officers	50 Staffs	50 Staffs	50 Staffs	50 Staffs
Establishment of kiosk at VUTRC	Tender processing and placing orders	Establishment processes	Put in to use	Put in to use
Touch screen facilities	5	5	5	5
Field tours for the farmers	2	2	2	2
Semi intensive sheep/goat farming	80	80	80	80
Distribution of turkeys (3+1), feed, health cover cost	150	150	150	150
Custom hatching units	60	60	60	60

Reporting

The Head of the Veterinary University Training and Research Centre, Theni, Regional Joint Director, Animal Husbandry Department, Theni and the General Manager, Aavin, Theni will submit to periodical progress report to the higher authorities.

Detailed Project Proposals - FISHERIES

1) Renovation of Nurseries at Manjalar Dam

Abstract

Theni District has seasonal and irrigation tanks of nearly 3600 ha. These tanks have full water level for nearly 8 months. So fish culture can be carried out by stocking good quality of quick growing fish seeds.

With a stocking rate of 1500 nos./ha. the total seed requirement will be around 55.00 lakh per year. At present there are two Government fish seed production centres in this district. One at Vaigai Dam and another at Manjalar dam which are able to produce only 17.5 lakh fingerlings per year. For the remaining seed requirement farmers will go and purchase fish seeds from the private fish farms of adjacent districts.

Budget : Rs. 38.00 lakh

Background / Problem Focus

In order to meet out the demand, it is proposed to renovate the existing damaged nurseries at Manjalar, so as to produce another 10.00 lakh fingerlings. The existing nurseries were constructed during the year 1978 and 1983.

The following dimensional nurseries were damaged and can be repaired with the total cost of 38.00 lakh.

1)	Nursery Pond - 6.4m x 5.4mx 3nos	=	103.68 sq.m.
2)	Rearing Pond – 12.4m x 10.4m x 2 nos .	=	257.92 sq.m.
3)	Breeder pond – 33m x 18m x 2 nos.	=	1188.00 sq.m.
	(full damage) - 33m x 18m x 2 nos.	=	1188.00 sq.m.
	(revetment repair only)		
4)	Rearing pond = 19.5m x 9.5m x 4 nos.	=	741.00 sq.m.
	Total	**=**	**3478.60 sq.m.**

Project Rationale

Renovation of nurseries in order to provide good quality fish seed to the farmers of this district.

Project Strategy

To produce quality fish seed through of the year.

Project Goals

To increase the fish seed production by renovating the nurseries which are able to produce 10.00 lakh fingerlings which will yield a fish production of 100 tonnes.

Project Components

- Repair work 2300 sq.m. @ 1500 sqm.
- Revetment work for 204 sqm.
- Supply of water, canal work

By renovating these nurseries we are able to produce 10.00 lakh fingerlings which will yield a fish production of 100 tones.

Project Cost and Financing

Project cost : Rs. 38.00 lakh

Financing : NADP

Implementation Chart of the Project

The renovation of nurseries at Manjalar Dam will be carried out in a phased manner during the 11th five year plan period.

Reporting

The renovation works of nurseries at Manjalar Dam will be reported to the monitoring agency. Annual progress can also be reviewed with regard to construction of nursery pond, rearing pond, breeder pond, repair works, cannel work, etc.,

2) Supply of Fishing Nets to Inland Fishermen (50 per cent subsidy)

Abstract

Share fishermen in Vaigai and Manjalar Dam using monofilament gill net for fishing. This type of net once used can not be mended. Every year fishermen are using nearly 20 kgs of nets. The nets can be sold to them on 50 subsidized cost. The total number of beneficieries are 35 and the cost involved is Rs,2,10lakh,

Budget : Rs. 2.10 lakh

Background / Problem Focus

Theni district has nearly 3600 ha of seasonal and irrigation tanks and these tanks have full water level for about 8 months. Therefore fish culture can be carried out by the fish farmers for getting more income.

Project Rationale

To increase fish production capacity in tanks.

Project Strategy

To encourage farmers through subsidy so that fish production can be improved in these tanks.

Project Goals

To encourage fish farmers in order to increase the fish production by extending subsidy assistance of 50 per cent in the supply of fish nets.

Project Components

Monofilament gill net and Caste net.

Project Cost and Financing

Project cost : Rs. 2.10 lakh

Financing : NADP

Implementation Chart of the Project

The subsidy scheme will be implemented during the 11th five year plan.

Reporting

Quarterly progress will be provided to the monitoring agency by the implementing agency. The progress may be reviewed with recorded to subsidy assistance, purchase net materials, fish production, etc.

3) Moped – cum – insulated Ice box for Fish Marketing (50 per cent subsidy)

Abstract

Share fishing by giving full time employment to the Cooperative Society members were carried out in Vaigai and Manjalar Dam. There are about 35 units consisting of 70 members who are engaged in fishing on 50 per cent share basis for their catches. Fishermen have to take longer effort to sell their catches from the landing centres. Now they are using bicycles for transporting and selling their catches. Since the fish is a highly perishable commodity, for quicker disposal of their catches and for the availability of hygienic commodity to the buyers, fishermen can be supplied with moped with insulated ice box on subsidy basis with an outlay of Rs.4.50 lakhs for the benefit of 70 members.

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

Budget: Rs. 4.50 lakh

Background / Problem Focus

For transporting and processing fish hygienically.

Project Rationale

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

Project Strategy

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

Project Goals

To promote the sale of fish of high quality with hygiene.

Project Components

Supply of 30 units of mopeds with ice box at 50 per cent subsidy.

Project Cost and Financing

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

Rs. 4.50 lakh for 30 units

Implementation Chart of the Project

Sl.No.	Particulars	I Qtr	II Qtr	III Qtr	IV Qtr
1.	Supply of moped with ice box	√	√	√	√

Reporting

Progress of the project will be reported periodically.

4) Cage Culture for Fish Seed Rearing (50 per cent Subsidy)

Abstract

Theni district has 2001 ha reservoirs, 8106 ha of seasonal irrigation tanks and 9258 ha short seasonal ponds. They can be utilized for open water fish seed rearing by extending 50 per cent subsidy to the farmers for fabrication of suitable floating cages.

Budget: Rs.1.50 lakh

Background/Problem Focus

The district show sudden spurt in fish seed demand soon after the onset of the North East monsoon. Fish seed rearing in cages will help maintaining the seed stock to meet the seed requirements at times of emerging situations. Cage culture also offers additional income to the farmers.

Project Rationale

The expected inland fish production in Theni district is 4471 tonnes per annum value of Rs.17.88 crores. The additional increase in fingerlings production is 179 lakh. This would assure employment opportunities to the rural poor. The post harvest infrastructure created will make the consumers to get quality fish.

Project Strategy

- Making use of the open water system for fish seed rearing in cages
- Expecting more recovery of the fish seeds from the open water system
- Meeting the fish seeds requirements in time
- Enhancing the seed production in the larger water bodies
- Ensuring quality fish seeds for stocking
- Additional income to the fish farmers

Project Goals

- To make use of the open water system for fish seed rearing in cages
- To get more recovery of the fish seeds from the open water system
- To meet the fish seeds requirements in time
- To enhance to seed production in the larger water bodies
- To ensure quality fish seeds for stocking

Project Components

- Identification of interested fish farmers for availing subsidy - 50 per cent
- Cage fabrication and fish seed stocking
- Rearing, fish feed, monitoring of the programme

Project Cost and Financing

Unit cost: Rs.7500/- Total 10 units; Total amount sRs.0.75 lakh for 4 years

Implementation Chart

Sl.No.	Activity	2008-09	2009-10	2010-11	2011-12
1.	Selection farmers	√	√	√	√
2.	Selection of water body	√	√	√	√
3.	Fabrication of cages and supply	√	√	√	√
4.	Seed stocking and rearing in cages and restocking in the water bodies or selling	√	√	√	√

Reporting

The functioning and progress of the work will be periodically monitored by State Fisheries Department Officials and reviewed by the Commissioner or Joint Director of Fisheries

5) Farmers Training

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 socioeconomic conditions of farmers the training programme is to be conducted regularly.

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 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 lakh tonnes of fish, the present yield is only 1.14 lakh tonnes. About 60 per cent culturable area has been brought under culture practices.

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 socioeconomic 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 Chart of the Project

Sl.No	Particulars	2008-09			
		I Qtr	II Qtr	III Qtr	IV Qtr
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.

6. Fish Landing Centre

Abstract

At present Theni district has no good landing centre for the sale of fishes caught from the seasonal and irrigation tanks. Therefore, its essential to create a fish landing centre with all necessary facilities in order to get higher income for the fish farmers.

Budget : Rs. 20.00 lakh

Project Rationale

To increase the sale of freshwater fishes caught from seasonal and irrigational tank in order to increase the sale of fishes.

Project Strategy

To increase the sale of fresh water fishes through the landing centre and encourage the fish farmers to utilize this landing centre for getting higher income for fishes.

Project Goals

To create fish landing centre in Theni district for increasing the sale of freshwater fishes.

Project Components

Fish landing with all facilities (Auction hall, cold storage facilities, etc).

Project Cost and Financing

Project cost : Rs. 20.00 lakh

Financing : NADP

Implementation Chart of the Project

The fish landing centre will be constructed during the 11th five year plan.

Reporting

Quarterly progress will be reported to the monitoring agency by the implementing agency. In addition to this the Annual progress can be reviewed with regard to construction of fish landing centre.

7. Retail Outlet

Abstract

Retail market will have 20-25 fish stalls where facilities like ice boxes, crates, electronic balance and dressing table are provided along with electricity, draining and water facilities

Budget : Rs. 10.00 laksh

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 20 district headquarters of Tamilnadu based on the marketing potential.

Project Goals

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

Project Components

Fish retail outlet.

Project Cost and Financing

Project cost : Rs. 10.00 lakh

Financing : NADP

Implementation Chart of the Project

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

Reporting

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

8. Desilting of Manjalar Dam

Abstract

In order to meet out the demand of freshwater fishes of this district, its proposed to renovated the existing damaged nurseries at Manjalar.

Budget : Rs. 25.00 lakh

Background / Problem Focus

At present there are two Government fish seed production centres in this district. One at Vagai Dam and another at Manjalar Dam which able to produce only 17.50 lakh fingerlings per year. Therefore it is proposed to desilt Manjalar Dam in order to increase water holding capacity and fish production.

Project Rationale

Desilting of Manjalar Dam to increase the water holding capacity and improve fish production.

Project Strategy

To increase the fish production through desilting of Manjalar Dam.

Project Goals

Desilting of Manjalar Dam in order to increase the water holding capacity so that year around fish production can be done.

Project Components

Desilting of Manjalar Dam.

Project Cost and Financing

Project cost : Rs. 25.00 lakh

Financing : NADP

Implementation Chart of the Project

Manjalar Dam will be Desilted during 11th five year plan period to increase water holding capacity.

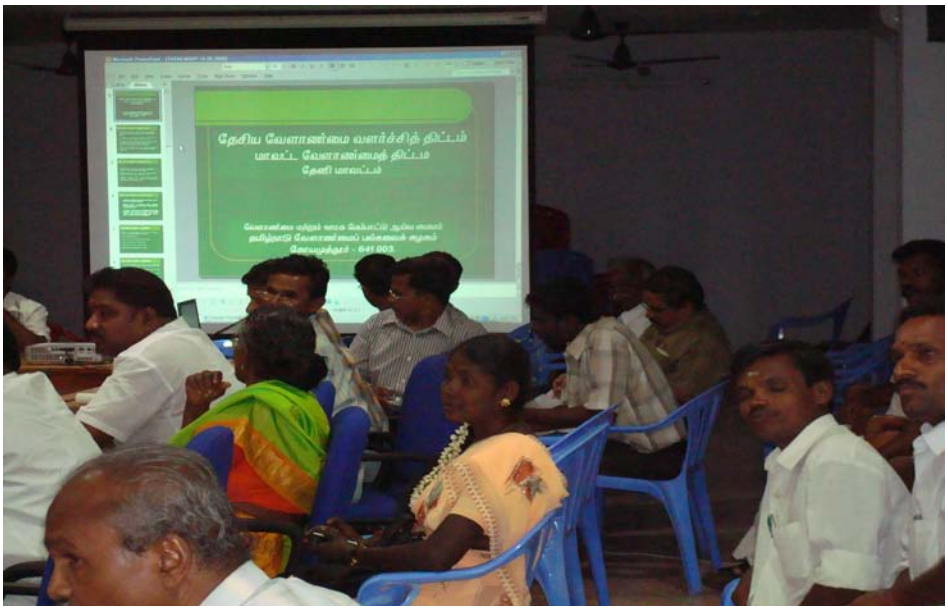
Reporting

Quarterly progress will be reported to the monitoring agency regarding in the desilting of Manjalar Dam.

National Agricultural Development Programme –
Sensitization Workshop Meeting held on 14.05.2008 at Theni District

Observation by Theni District Collector

Proposal Presentation by the TNAU Scientist



Participants of Interactive Meeting

Interaction by TNAU Scientists with Participants

Participants Interaction

Address by Theni District Collector