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# **NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)**

## **DISTRICT AGRICULTURE PLAN THIRUVARUR DISTRICT**

**Centre for Agricultural and Rural Development Studies  
(CARDS)**

**Tamil Nadu Agricultural University  
Coimbatore – 641 003**

**2008**

# **NATIONAL AGRICULTURE DEVELOPMENT PROJECT – DISTRICT AGRICULTURE PLAN**

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## FOREWORD

Date .....

The National Development Council resolved that Agricultural Development strategies must be reoriented to meet the needs of farmers and called upon the Central and State governments to evolve a strategy to rejuvenate agriculture with a commitment to achieve four per cent annual growth in the agricultural sector during the 11<sup>th</sup> 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 11<sup>th</sup> plan.

  
(C. RAM AS AMY)

Coimbatore  
June 30, 2008



## **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.

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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)**

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## EXECUTIVE SUMMARY

### Location and Area

Thiruvarur District was formed on 1<sup>st</sup> January 1997 by carving out of certain portions of erstwhile Nagappatinam and Thanjavur Districts. Accordingly 9 blocks from Nagappatinam District and 1 block from Thanjavur District were taken out and Thiruvarur District was formed with 10 blocks. For administrative purpose the district is divided into 2 divisions i.e. Mannargudi and Thiruvarur. The district is bound by palk straight in the south, Thanjavur in the west and Nagappatinam District in the East and parts of Nagappattinam and Thanjavur District in the North.

At present Thiruvarur is located approximately between 10<sup>o</sup> 20'N and 11<sup>o</sup> 07'S of the north latitude and between 79<sup>o</sup> 15'E and 79<sup>o</sup> 45'W of east longitude. The total geographical area of the district is 2097.09 Sq. Km. It has 2, 37,715 hectares of cultivated area which constituted 69 percent of the total geographical area of the district. Thiruvarur district has four Municipalities, ten Panchayat Unions, seven Town Panchayats, 430 Village Panchayats and 573 Revenue Villages. Thiruthuraipoondi block has vast stretches of forest area.

Thiruvarur district is more suitable for cultivation of paddy. Other important crops grown in the district are blackgram, greengram, cotton, sugarcane, gingelly, groundnut etc., and the major cash crops are paddy, blackgram, green gram, cotton. The land use pattern of the district indicates that land under trees occupies maximum percentage, nearly 17.9 percent, while the net cropped area followed with 14.4 percent. The other types of land uses occupied a minimum percentage of less than 10 percent for each category. The land under non agricultural uses (17.9 percent) is causing concern as the growth of these activities will reduce the agricultural growth in the district. The current fallow and other fallow lands occupying 5.5 and 3.5 percent respectively can be reduced considerably by encouraging horticultural plantations. Meanwhile, the productivity of the crops has to be increased so as to compensate the reduction in land under agriculture by

adopting modern practices and high yielding hybrid varieties. The irrigation sources of the district indicate that tube wells are the major source of irrigation supplemented by canals.

The major irrigated crops in the district are paddy, coconut, groundnut, cotton, gingili, Soya been. The irrigated area under vegetables, fruit and flowers if increased by judicious use of water with modern water management techniques, yield of those crops can be boosted and thereby export potential can be explored. The productivity of food crops like paddy, cotton, sugarcane and pulses can also be increased to the target levels by proper water management practices. This district has a great potential for agribusiness and export of agricultural products. The establishment of industrial complexes and special economic zones will further contribute to the development of the district.

## **SWOT Analysis of the District**

### **Strength**

- Assured Channel Irrigation
- Soil with high water holding capacity
- Average land holdings of 1 acre
- Marine eco system

### **Weakness**

- Mono cropping
- Susceptible
- Sea water intension
- Clay soil with water logging nature.
- Less thrashing floor and storage facilities.
- Mind set of farmers not to go for alternate crop.
- Shortage of labour.



## **Opportunities**

- Farm mechanization
- More area under cotton, Oil seeds etc.
- More are under vegetable and fruit crops.
- More area under medicinal plants such as Vasambu.
- More are under Bamboo
- Contract farming in maize. Pulses and cotton cultivation.
- Value addition in pulses.

## **Thrust**

- Recharging of Ground water table.
- Rain water harvesting structures
- Drainage system
- Extraction of Rice bran oil from paddy husk.
- Extraction of paper industry

## **Vision**

- Area Expansion under cotton, oil seeds and coconut.
- Increasing production in cotton and oilseeds.
- Restoring Soil facilities.
- Agricultural mechanization.

## **Strategy**

- Creating awareness through campaigns
- Imparting new technologies through Trainings, exposure visits, study tour kisan melas.
- Conducting demonstrations.
- Issue of soil health cards.
- Promotion of Agri clinics.
- Promotion of agricultural implements thro' farmers interest Groups and TANWABE Groups.
- Conducting farmer – scientists' interactions thro' workshops and seminars.

## **Position of Ongoing Schemes in Agriculture Department**

The agricultural department implemented the State government funded schemes *viz.*, the procurement and distribution of paddy, millets, oilseeds, cotton seeds including the distribution of coconut seedlings, crop yield competition and vermicompost in the year 2007-08 with the expenditure of Rs. 423 lakhs. The Centre and State government funded projects *viz.*, Integrated Scheme for Oilseeds, Pulses, Oilpalm and Maize, (ISOPOM) (75:25), Technology Mission Mode Scheme Macro Management Mode Schemes (90:10), (75:25) Coconut Development Board Schemes (50:50), Centrally Sponsored Schemes (100 per cent) are in operation in this district.

## **Major Interventions of Agriculture Development**

The department of agriculture has proposed the following interventions in the district agriculture programme.

### **1. Integrated Development of cotton**

- Distribution of high yielding variety seeds
- Distribution of hybrid seeds
- IPM, FFS to farmers
- Distribution of MN mixture
- Production of seed
- Distribution of trap crop

### **2. Integrated Development of groundnut**

- Distribution of breeder seeds
- Distribution of foundation seeds
- Distribution of Certified seeds
- Distribution of Gypsum
- Distribution of MN mixture
- Distribution of seed treatment chemicals
- Farmers field school
- Coconut nursery in SSF

### **3. Agricultural Mechanization**

- Distribution of harvest machine
- Distribution of Rice transplanter
- Distribution of Ridgers
- Distribution of mechanical Conoweeder
- Distribution of Drum seeder
- Distribution of SRI marker
- Distribution of storage of pest monitoring gadgets
- Distribution of Hand sprayer
- Imparting training to farmers for the maintenance of machines
- Recharging of ground water table using old bore wells.

### **4. Restoring Soil Health**

- Issue of soil health card
- M.N. Mixture demonstration
- Human resource development

### **5. Support to State Seed Farm**

- Power tiller
- Digging of farm ponds
- Fencing
- Distribution of 10 HP oil
- Seed godown

### **6. Integrated Pest Management**

- Establishment of Bio-Control Lab through TANWABE/FIG

### **7. Infrastructure Development**

- Farmers training
- Officers training

- Exposure visit of farmers
- Exposure visit of officers
- Kisan mela
- Study tour

## **8. Marketing of Infrastructure Development**

- Establishment of godown

## **9. Innovative Scheme**

- Precision farming in groundnut

## **10. Others**

- Eradication of Ipomea in river channels

### **Position of On Going Schemes in Horticulture Department**

In Thiruvarur district, during 2007-08, the horticulture development programmes were implemented through number of schemes *viz.*, Integrated Horticulture Development Scheme, National bamboo Mission scheme and Micro Irrigation. In Integrated Horticulture Development Scheme 50 percent subsidy was given to the farmers, by distribution of fruit plants, hybrid vegetable seeds, spices, flowers etc. National Bamboo Mission scheme is being implemented with the following sub components *viz.*, research and development, plantation development, export, implementation monitoring mechanism.

### **Major Interventions of Horticulture Development**

- Net House Structure
- Pandal for vegetable production
- Plastic Crates for Vegetable handling and transport
- Banana bunch cover
- Banana corm injector

- Mango Harvester
- Sales outlet point in district - Rent and infrastructure
- District level farmers workshop
- Exposure visit for five days
- 10 ha Mega Demonstration Plot
- Package for plant protection
- Bore well with casing pipe
- Enterprising farmers association
- Community fencing
- Support for betelvine
- Support for vasambu
- Fruits in noon meal scheme

#### **Major Interventions of Animal Husbandry Development**

- Feed and fodder development
- Improvement of livestock health

#### **Major Interventions of Fisheries Development**

- Infrastructure development to attain self sufficiency in fish seed production through private and Government.
- Expansion of fish culture in hitherto unutilized water bodies.
- Renovation of existing infrastructure facility for aquaculture.
- Provision of support for retail fish marketing.
- Infrastructure development for demonstration of integrated coastal aquaculture
- Improving the fishing efficiency in inland water bodies.
- Capacity building to fish farmers

## **Major Interventions of Agricultural Engineering Development**

- Introduction of Newly Developed Agricultural Machinery and Implements
- Innovative water harvesting structures
- Popularization of Agrl. Mechanisation through Conventional Machinery / Equipments
- Water Harvesting Structures
- Soil Conservation work
- Water Management works

## **Major Interventions of Agricultural Marketing**

- Establishment/ organization of commodity groups for marketing in the State
- Facilitation of Contract Farming between farmers and bulk buyers in the State
- Dissemination of Market intelligence
- Arrangement of Buyers - Sellers Meet
- Organizing the exposure visits to important markets within the state and outside 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
- Capacity building of farmer's skill
- Price surveillance
- Regulated Market and uzhavar Shandies Publicity
- Market Infrastructure

**Budget Details for Activities Proposed in Thiruvarur District Agriculture Plan**  
(Rs. in lakhs)

<b>Sl.No</b>	<b>Departments</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>Total</b>
1	Agriculture	1158.210	1172.840	1035.250	1173.860	4540.154
2	Horticulture	123.9265	113.0115	89.2615	90.4415	416.641
3	Animal Husbandry	680.230	72.350	55.550	55.050	863.180
4	Fisheries	265.550	172.550	171.150	38.250	647.500
5	Agricultural Engineering	2688.880	2758.270	2638.470	2699.900	10785.520
6	Agricultural Marketing	64.950	336.75	350.11	246.29	998.10
	<b>Total</b>	<b>4981.75</b>	<b>4625.77</b>	<b>4339.79</b>	<b>4303.79</b>	<b>18251.10</b>

## **CHAPTER - I**

### **INTRODUCTION**

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

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



### **Methodology Adopted for Preparation of District Agriculture Plan**

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

### **Major Areas of Focus**

- (a) Integrated development of major food crops like paddy, coarse cereals, minor millets, pulses, oilseeds;
- (b) Agriculture mechanization;
- (c) Activities related to enhancement of soil health;
- (d) Development of rainfed farming systems in and outside watershed areas, as also Integrated development of watershed areas, wastelands, river valleys;
- (e) Integrated Pest Management schemes;
- (f) Strengthening of Market Infrastructure and marketing development;
- (g) Strengthening of Infrastructure to promote Extension Services;
- (h) Activities relating to enhancement of horticultural production and popularization of micro irrigation systems;
- (i) Animal husbandry and fisheries development activities;
- (j) Study tours of farmers;
- (k) Organic and bio-fertilizers;
- (l) Innovative schemes.

### **Collection of Data**

The preparation of district level plan involved basically collection of base line and bench mark details. So a template is developed to collect these particulars from the different districts (29 districts) of Tamil Nadu. In order to dovetail the ongoing schemes, with the action plans, the current ongoing agriculture programs were listed with their physical and financial performance and finally converged as the plan under National Agriculture Development Programme.

### **Formulation of District Planning Unit**

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

- a) Deans of other campuses / Heads of Krishi Vigyan Kendra or Research Station in respective district and one scientist from each campus
- b) Co-ordinating staff from Directorate of Centre for Agricultural and Rural Development Studies to represent each district
- c) Officials of Line Departments from Agriculture, Horticulture, Agricultural Engineering, Marketing, Animal Husbandry and Fisheries, Seed certification, Public Works Department etc. the task are fulfilled.

### **Sensitization Workshop**

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

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

**Preparation of Draft Action Plan and Presentation in District Collectors Meeting**

Based on the baseline information and proposals, draft action plan was prepared and this was presented in the District Collectors Meeting held on 12.5.08 under the chairmanship of 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.

**Finalisation**

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

## CHAPTER - II

### GENERAL DESCRIPTION OF THE DISTRICT

#### 2.1 Introduction

Desired emphasis has been given to agricultural sectors since the inception of Five Year Plan periods to promote the agrarian driven economy: even today agricultural sector fuels GDP growth by contributing to over 15 per cent (2002-03). Agriculture growth enhanced overall economic growth of the state during 1980s but its contribution in real terms to overall economic growth has declined during 1990s. In Tamil Nadu' the performance of Agricultural sectors has been impressive since 1960's when early improved crop varieties were introduced. After the introduction of improved varieties, a phenomenal breakthrough in productivity of crops was achieved resulting in high production of most of the crops. Tamil Nadu has done extremely well in irrigated agriculture particularly in rice, sugarcane and groundnut, the major crops of the state. Food grains production registered a growth rate of 2.31 per cent being green revolutions period and till 1980s, thereafter it rose further to 3.71 and till 1990s. This means, the food grains production was much ahead of the population growth during the above period.

Recent studies by the National Statistical Organization have shown that almost 27 percent of the indebted farmers at the all-India level have taken loans from banks and 26 percent from co-operatives. The same data also shows that 29 percent of the indebted farmers had loans from money lenders, 12 per cent from traders and 18 per cent from friends and relatives. In other words, there is sizeable number of farmers even today who take recourse to loans outside the formal credit sector, and is, therefore, this is something that banks and co-operatives can easily bring under their business portfolio. This assumes significance as almost 66per cent of the farmer's indebtedness is reported for "Productive purposes", with 31per cent for capital expenditure on farms, 28 per cent on crop production and seven per cent on non-farm business.

Economic reforms initiated since 1991 have put the Indian economy on a higher growth trajectory. Annual growth rate in the total Gross Domestic Product (GDP) has accelerated from below six per cent during the initial years of reforms to

more than eight per cent in recent years. The Planning Commission in its approach paper to the Eleventh Five-year-plan has stated that nine per cent growth rate in GDP would be feasible during the Eleventh plan period. However, Agriculture that accounted for more than 30 per cent of total GDP at the beginning of reforms failed to maintain its pre-reform growth. On the contrary, it witnessed sharp deceleration in growth after the mid-1990s. This happened despite the fact that agricultural productivity in most of the states was quite low as it were, and the potential for the growth of agriculture was high.

The GDP of agriculture increased annually at more than three per cent during the 1980s. Since the Ninth Five-year plan (1996 to 2001-02, India has been targeting a growth rate of more than four per cent in agriculture, but the actual achievement has been much below the target. More than 50 per cent of the workforce of the country still depends upon agriculture for its livelihood. Slow growth in Agriculture and allied sectors can lead to acute stress in the economy because the population dependent upon this sector is still very large. A major cause behind the slow growth in agriculture is the consistent decrease in investments in the sector by the state governments. While public and private investments are increasing manifold in sectors such as infrastructure, similar investments are not forthcoming in Agriculture and allied sectors, leading to distress in the community of farmers, especially that of the small and marginal segment. Hence the need for sensitizing the states to increase their investments in the Agriculture and allied sectors has been felt.

The National Development Council (NDC) 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. The NDC reaffirmed its commitment to achieve four per cent annual growth in the agricultural sectors during the 11<sup>th</sup> plan. The department of agriculture, in compliance of the resolution and in consultation with the Planning Commission, has prepared the RKVY to be NADP schemes.

A sharp decline in rice area from the peak of 28 lakh hectares to less than 20 lakhs hectares is mainly caused Cauvery water dispute and it's the main reason for

slowing down the growth of food grains productions. Technology, expansion in irrigation and market development paved the way for perceptible growth in yield of rice and sugarcane. To achieve the targeted growth rate in agriculture, new initiatives like agriculture mechanization, ground water development, Land development works soil and water conservation works has to be carried out.

### **Present Scenario**

- Pattern of agricultural growth not uniform between region, crop and categories of farmers.
- Stagnation in growth of agricultural sector
- Reduction of gross cropping area.
- Depletion of water resources.
- Degradation of land and soil quality

Population annually increases by 6 per cent and Cultivate lands reduces by two per cent annually by urbanization like lands converted in to Housing Plots, Industrial estates and lands affected by Alkalinity and Salinity due to water logging. Then due to labour scarcity some lands are not utilized for cultivation.

It is very essential to increase Agricultural Productivity to at-least 5per cent to compensate the Population growth and reduction of gross cultivable land areas.

Thiruvarur District is situated in the tail end of the Cauvery Delta and it is also a coastal district.

During the raining periods apart from the rain water in Tiruvarur District the water from Trichy and Thanjavur Districts is drained into Thiruvarur District that causes flooding and heavy damages to the crops. Eventhough there is heavy flood after the water drained, within 15 days there has been water scarcity. This may be avoided by water harvesting through formation of Farm Ponds, Construction of Bore wells in Tanks & Renovation of Village Tanks & Temple Tanks to increase their carrying capacity. By the creation of rain harvesting structures, Flood damages can be avoided and Ground water level may be raised by recharging and the stored-water can be re-used when required.

The Farm Ponds are formed to the size of 30m x 30m x 1.50m to a carrying capacity of 1.35 Million Liters. From the water stored in one pond 2 Ha may be irrigated at wilting period and the crops may be saved. With the help of water harvesting through Farm Pond water can be recharged and level raised around 500 m radius. Upto 2000 fishes can be breeding in one pond. 2000 kg of fish can be harvested and the farmer can earn Rs. 40,000 /Year /Pond. Economic status of the farmers shall be increased by fish culture.

From the excavated earth from one pond, one acre area can be raised to one feet level and the raised land may be utilized for raising Vegetables. One farm pond may be formed for every 2 Ha. of lands. i.e 60,000 Farm Ponds may be constructed in Tiruvarur District.

The water harvesting and water recharging improves the quality of the Water and prevents sea water intrusion.

In Thiruvarur District most of the crop production is only from Paddy. In comparison with other occupations, the income from Agriculture in Tiruvarur District is low. The wages for Agricultural Labour is less and so the labour went to Cities and Towns for other jobs for earning more. 10 years ago Agricultural Labourers in Thiruvarur District were opposed to engaging machineries for farm works but nowadays due to labour scarcity, labour themselves insists to engage machineries apart from their works. Due to the huge development of Self Help Groups in Thiruvarur District the women labours were diverted to other works and for handicrafts production. There is scarcity for women labour for planting works and weeding.

Hence Farm works to be Mechanized and aid for Agricultural Mechanization is essential. In most of the areas, the Threshing Floor is far away from the roads and paddy bags are transported by head load. It creates heavy work load to the labourers and results in more transport costs and more time for disposal. Farmers are requesting and insisting for Farm Roads during grievances day meetings in all occasions.

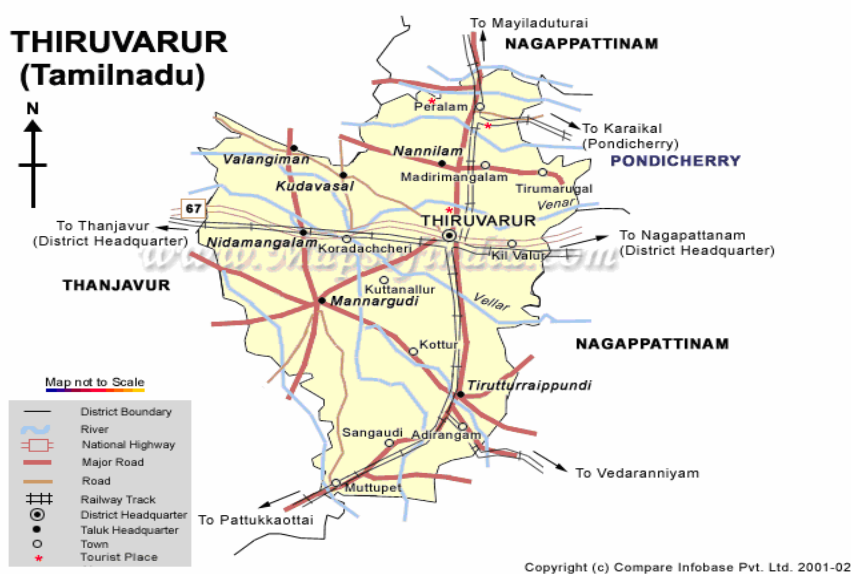
Construction of Threshing Floor and Drying yards are very useful to the farmers while harvesting works and protection of the grains from damages.

Eventhough Summer Ploughing is recommended and stressed by the Agriculture Department there has been less awareness among the farmers and some farmers only followed the summer ploughing in the interest of saving expenditure for the Ploughing works in mind.

The summer ploughing conserves the land moisture. The larvae of pests are destroyed, restricts weeds, absorb rain water and percolate and recharge fully without waste. Wet ploughing cost is less and the water requirement is also less.

Based on the above needs the following works are proposed.

1. Rain Water Harvesting through Formation of Farm Ponds.
2. Water Harvesting and Recharging through Bore wells in Tanks
3. Agricultural Mechanization
4. Construction of Threshing Floors and Drying Yards.
5. Formation of Farm Roads.
6. Soil Moisture Conservation through Summer Ploughing



**Figure 1. Thiruvarur District Map**



**2.1 General Statistics (2005-06)****1. Geographical Position**

North Latitude	Between 10° 20' and 11° 07'
East Longitude	Between 79 °15' and 79° 45'
Sea Level	10 meters

**2. Area and Population – (2001 Census)**

i. Area (sq.km.)	: 2097.09
ii. Population	: 1169474
iii. Rural Population	: 932231
iv. Urban Population	: 237243
v. Cultivators	: 68374
vi. Agricultural Labourers	: 286033

**3. Temperature (in Degree Centigrades)**

i. Maximum	: 36.9
ii. Minimum	: 29.8

**4. Rainfall (in mm)**

South West monsoon Rainfall	: 301.8
North East monsoon Rainfall	: 665.4

**5. Land Use Pattern (ha)**

a. Forest	: 2452.000
b. Uncultivable waste	: 113.000
c. Non - Agriculture use	: 37079.089
d. Cultivable Waste land	: 1737.700
e. Permanent Pasture and Grass land	: 785.665
f. Misc tree crops & Groves	: 2189.078
g. Current fallow	: 2139.161
h. Other fallow	: 7973.985
i. Net Cultivated Area	: 155239.522
<b>Total</b>	<b>: 209709.200</b>

**6. Agriculture (in ha.)**

a. Total Cultivated Area	: 237715
b Net Area Sown	: 153227
c. Area Sown more than once	: 84488
<b>d. Area of Principal crops (in ha.)</b>	
1. Rice	: 156000
2. Pulses	: 65000
3. Sugarcane	: 4000
4. Groundnut	: 1000
5. Gingelly	: 2000
6. Cotton (Lint)	: 3000
7. Coconut	: 4921
e. Agriculture Land Holding (1995-96)	: 167878
i. Important Food Crops	: Rice, Greengram, Blackgram
ii. Important Non - Food Crops	: Cotton, Groundnut, Coconut, Gingelly, Oil-Palm.

**7. Area under Horticulture Crops (2006-07 in ha.)****(A) Fruits**

1. Banana	: 367
2. Mango	: 186
3. Jack	: 16
4. Guava	: 8
5. Papaya	: 1
6. Acid lime	: 24
7. Rough Lemon	: 14
<b>Total</b>	<b>: 616</b>

**(B) Vegetables (in ha.)**

1. Brinjal	: 20
2. Bhendi (Lady's Finger)	: 7
3. Beans (Lab-Lab)	: 3

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4. Gourds (Cucurbits)	: 24
5. Annual Drumstick	: 9
6. Radish	: 1
7. Greens	: 22
<b>Total</b>	<b>: 86</b>

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**(C) Tuber Crops (in ha.)**

1. Tapioca	: 42
2. Sweet potato	: 3
3. Coleus	: 3
4. Yam	: 3
<b>Total</b>	<b>: 51</b>

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**(D) Dried Fruits (in ha.)**

1. Cashew	: 5
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**(E) Spices (in ha.)**

1. Arecanut	: 5
2. Chillies	: 7
3. Turmeric	: 4
4. Tamarind	: 138
5. Betelvine	: 21
<b>Total</b>	<b>: 175</b>

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**(F) Flowers (in ha.)**

1. Rose	: 5
2. Jasmine	: 7
3. Mullai ( <i>Jasminum auriculatum</i> )	: 7
4. Crossandra	: 3
<b>Total</b>	<b>: 22</b>

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**(G) Medicinal Crop (in ha.)**

1. Amla : 7

**Some Other Crops (in ha.)**

1. Bamboo : 7

2. Teak : 3

3. Casuarina : 14

**8. Co-Operation**

- a. Primary land Development Banks : 6
- b. District General Co-operative Banks : 2
- c. Urban Banks : 4
- d. Primary Agricultural Credit Societies : 137
- e. Housing Co-operative Societies : 6
- f. Employees Co-operative Societies : 27
- g. Weavers Co-operative Societies : 3
- h. Primary Co-operative Stores : 4
- i. Co -operative Credit Societies : 3
- j. Other Co-operative Societies : 206

**9. Revenue Administration Divisions**

- a. Revenue Division : 2
- b. Revenue Taluks : 7
- c. Revenue Firkas : 27
- d. Revenue Villages : 573

**10. Local Bodies**

- a. Municipalities : 4
- b. Panchayat Unions : 10
- c. Town Panchayats : 7
- d. Village Panchayats : 430

**11. Banking and Insurance**

- a. Bank Offices : 14
- b. Primary Co-operative Bank Societies : 137
- c. Life Insurance Offices : 3

**12. Natural Resources**

- a. Name of the Minerals found : Crude Oil and Natural Gas

**2.2 District at a Glance****2.2.1. District Profile****i. Location**

Thiruvarur District was formed on 1<sup>st</sup> January 1997 by carving out of certain portions of erstwhile Nagappatinam and Thanjavur Districts. Accordingly 9 blocks from Nagappatinam District and 1 block from Thanjavur District were taken out and Tiruvarur District was formed with 10 blocks. For administrative purpose the district is divided into 2 divisions' i.e.Mannargudi and Tiruvarur. The district is bound by palk straight in the south, Thanjavur in the west and Nagappatinam District in the East and parts of Nagappattinam & Thanjavur District in the North. The new District has a total area of 2,100 Sq.Kms.

**ii. Geographical Features****Table 2.1 Geographical Position**

Date of District Formation	01.01.1997
Latitude (N-S)	Between 10 20' And 11 07'
Longitude (E-W)	Between 79 15' And 79 45'
Mean Sea Level	10 meters
Area (Sq. Km.)	2097.09

**Table 2.2 Climatic Conditions - Temperature**

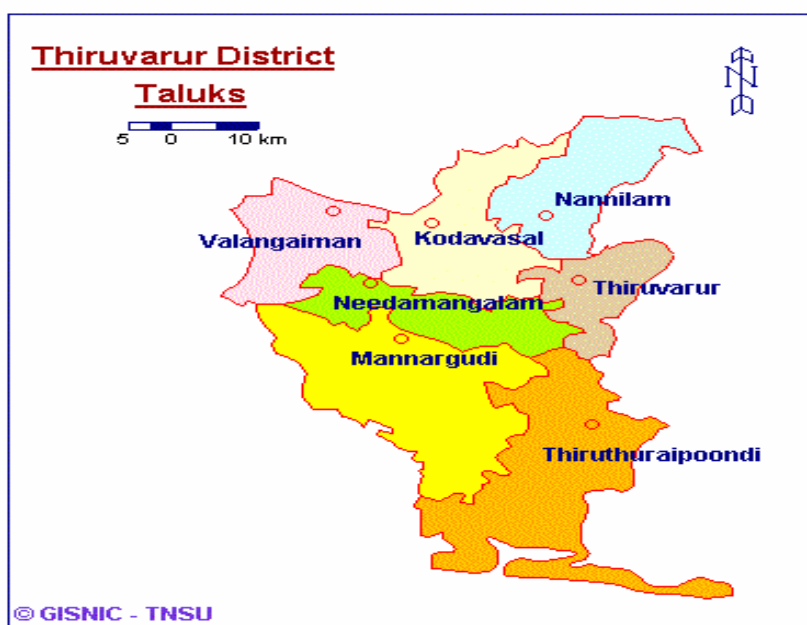
<b>Temperature (in Degree Centigrades)</b>	
Maximum	39.7
Minimum	22.6

**Table 2.3 Rainfall 2002-03**

(in mm)	
<b>South West</b>	
Normal	303.1
Actual	560.8
<b>North East</b>	
Normal	659.2
Actual	118.4

**Table 2.4 Taluks and Panchayat Unions**

S.No	Taluks	Panchayat unions
1.	Thiruvarur	Thiruvarur
2.	Mannargudi	Mannargudi and kottur
3.	Needamangalam	Needamangalam
4.	Thiruthuraipoondi	Thiruthuraipoondi & muthupettai
5.	Nannilam	Nannilam
6.	Koavasal	Kadavasal & Koradacheri
7.	Valangaiman	Valangaiman

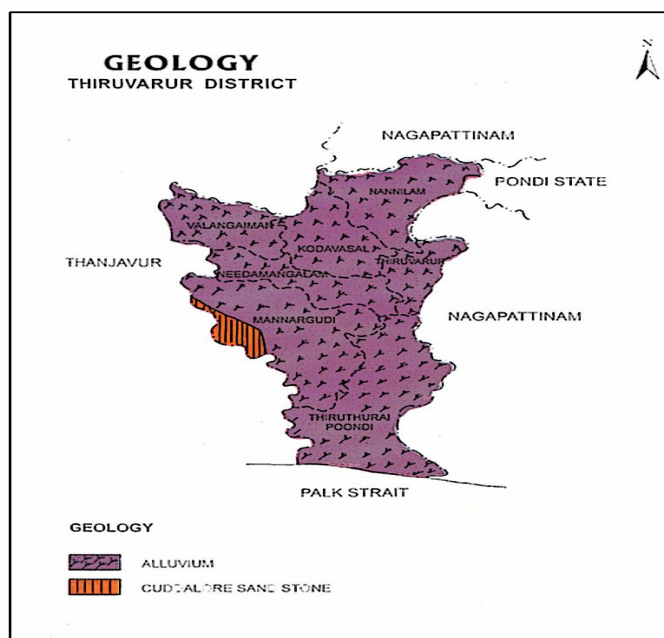
**Figure 2. Distribution of Taluk in Thiruvarur District**

**Table 2.5 Demographic Profile**

<b>Population (Census 2001)</b>			
<b>Description</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
Total Population	11,69,474	5,80,784	5,88,690
Rural Population	9,32,231	4,63,502	4,68,729
Urban Population	2,37,243	1,17,282	1,19,961
Population (0-6 Yrs)	1,40,099	71,115	68,984
Rural Population	1,13,326	57,571	55,755
Urban Population	26,773	13,544	13,229
Literacy Rate	7,88,302	4,35,421	3,52,881
Rural Literates	6,08,297	3,40,202	2,68,095
Urban Literates	1,80,005	95,219	84,786

### 2.2.3 Geology

Thiruvarur district is made up of tertiary and alluvial deposits. The cuddalore sand stones of tertiary age are well developed as seen near mannargudi. These sand stones are covered by a thin layer of wind blown sandy clays, unconsolidated sands, clay bound sands and mottled clays with lignite seams. This tertiary formation is invariably capped by laterite. The alluvial deposits of the river cauvery and its tributaries lie over the tertiary sand stone. They consist of medium to firm sands, clays and sandy clays. The thickness of these formations range from 30m to 400m.



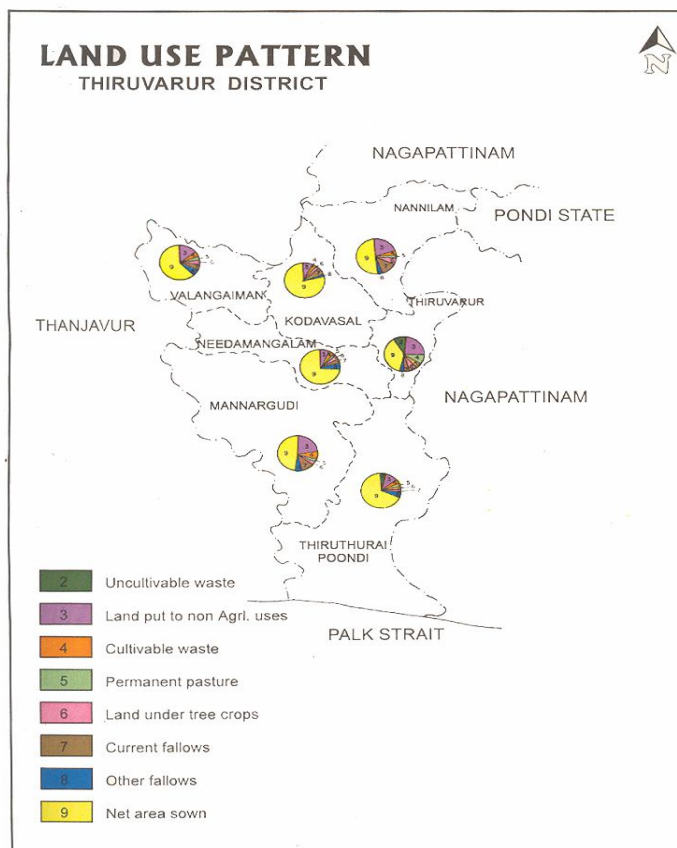
**Figur 3. Geology Map of Thiruvarur District**

Table 2.6 Taluk Wise Land Use Pattern - 2005-2006

Sl.No	Particulars	Mannar gudi	Needaman galam	Thiruthurai poondi	Thiruvarur	Nannilam	Kodavasal	Valan-gaiman	Total Extent	Per cent to total
	Total geographical area	56,605	22,826	39,750	14,216	24,560	28,231	27,115	213,303	100
1	Forest	--	--	11,200	--	--	--	--	11,200	5.3
2	Uncultivable Waste	--	--	809	102	--	--	--	911	0.4
3	Land put to non agri. uses	12,832	3,510	4,933	2,791	7,617	2,238	4,193	38,114	17.9
4	Cultivable Wastes	1,753	673	722	651	431	412	617	5,259	2.5
5	Permanent pastures	308	122	213	35	115		38	831	0.4
6	Land under trees not included under net area sown	153	351	166	63	535	65	4	1,337	17.9
7	Current fallows	3,444	347	525	303	3,940	2,267	1,113	11,939	5.5
8	Other fallows	2,464	862	2,614	106	195	209	915	7,365	3.5
9	Net area sown	35,651	16,961	18,568	10,165	11,727	23,040	20,235	136,347	63.9

Source: Soil Atlas, Thiruvarur





**Figure 4. Map showing Land Use Pattern**

### 2.2.5 Crop Area

This district is essentially a deltaic plain comprising of old and new delta. The old delta has a net work of canals and channels of the river Cauvery (Nannilam, parts of Valangaiman, Kodavasal and Thiruvavar taluks) and Vennar (Thiruthuraipoondi, Needamangalam and parts of Thiruvavar, Kodavasal, Valangaiman and Mannargudy taluks). A small extent (part of Mannargudi and Valangaiman taluks) of new deltaic area is irrigated by Grand Anaicut canal. Tapping of ground water is done considerably in this area to advance the first cropping season, Kuruvai, to avoid damage due to the north east monsoon and to accommodate the two crops namely Kuruvai and Thaladi.

The soils of the new deltaic area are amenable for wide variety of crops such as Coconut, Mango, Groundnut and Paddy. Summer crops like pulses, Cotton, Gingelly, Soybean and Groundnut are grown in this area, under irrigated conditions. Cultivation of Oil palm is also gaining momentum in this district wherever assured water supply and drainage facilities are available.

**Table 2.7 Area under Different Crops – 2005-2006**

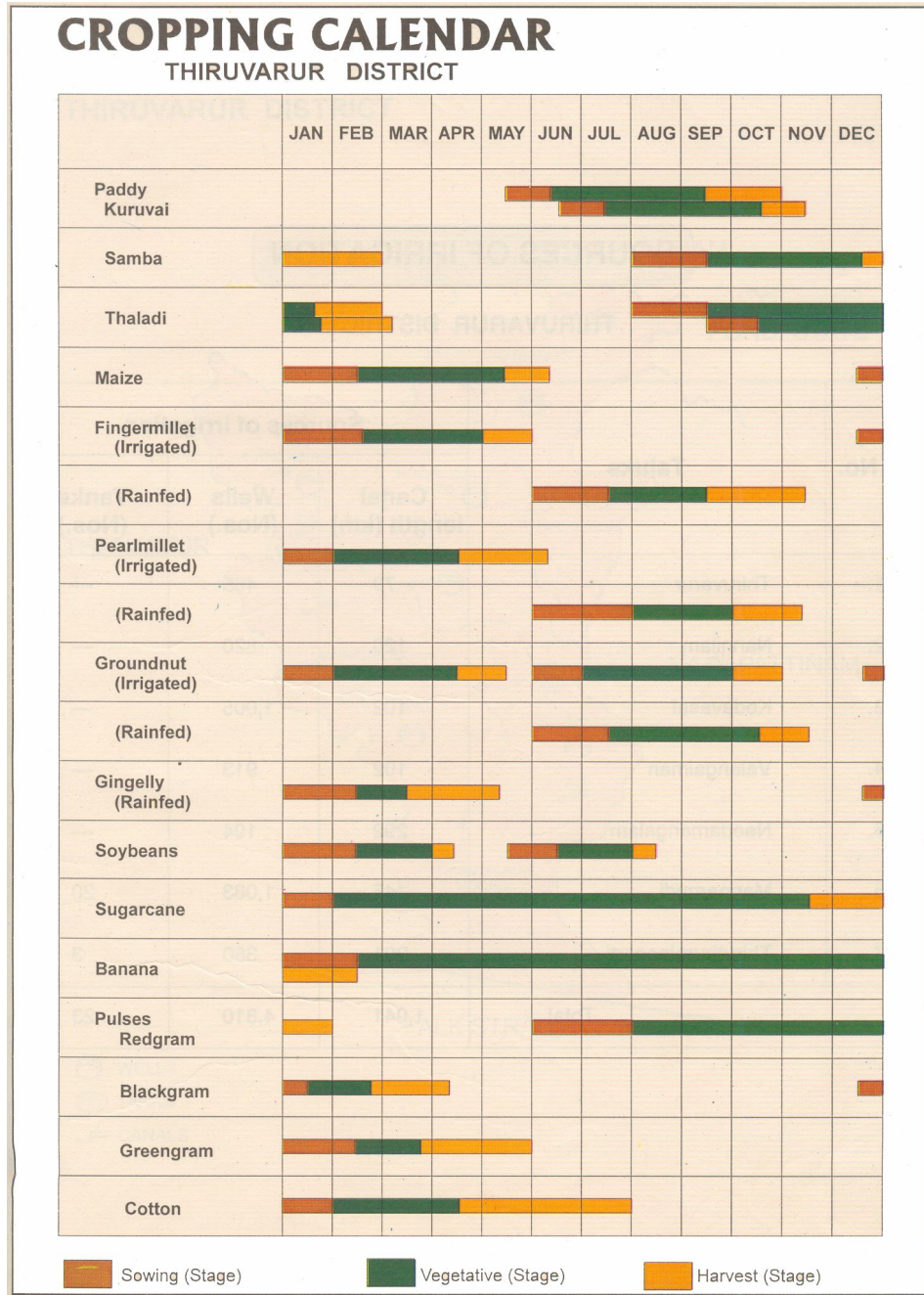
(Thousand hectares)

Sl. No.	Taluks	Paddy	Pulses	Oil Seeds	Millets	Sugar cane	Other crops	Total
1	Kodavasal	25.70	6.90	0.55	0.04	0.32	0.04	33.55
2	Mannargudy	46.50	10.90	3.30	0.45	0.33	0.65	62.13
3	Nannilam	52.40	5.50	1.00	0.18	0.20	0.31	59.59
4	Needamangalam	21.40	1.04	1.10	0.14	0.74	0.09	24.51
5	Thiruthuraiipoondi	38.70	10.00	1.30	0.08	0.02	0.17	50.27
6	Valangaiman	24.50	5.20	0.81	0.20	0.18	1.42	32.31
7	Thiruvarur	29.00	9.00	2.30	0.15	0.07	0.25	40.77
	<b>Total</b>	<b>238.20</b>	<b>48.54</b>	<b>10.36</b>	<b>1.24</b>	<b>1.86</b>	<b>2.93</b>	<b>303.13</b>

Source: Soil Atlas Thiruvarur

### 2.2.6 Cropping Calendar

The major crops cultivated in Thiruvarur District are Paddy, Pulses and Sugarcane. Beside this Soyabean, Banana, Groundnut and Gingelly are also grown. Paddy is grown in three seasons viz. Kuruvai, Samba and thaladi.. Pulses like Blackgram and Green gram and other cash crops like cotton and Gingelly are grown in rice fallows. Irrigated paddy is grown wherever water is available. In some areas, semidry (district sown) paddy is also cultivated.



**Figure 5. Cropping Calender**

**2.2.7. Land Capability Classification**

Land capability classification shows the suitability of soils for agricultural uses. The groupings are made according to the soil limitations and the risks of damage when they are used. This classification system evaluates the soils based on the

inherent soil characteristics (soil depth, texture, structure, concretions, reaction and permeability), external land features (slope, erosion, stoniness, etc.) that limits the use of land, and environmental factors (rainfall and temperature).

The grouping of soils into capability classes is primarily done on the basis of their capability to produce common cultivated crops and pastures without deterioration over a long period of time.

The capability classes are designated by Roman numerals 1 to VIII in addition the subclasses (limitations) like topography (t) soils (s), wetness (w), climate © and erosion (e) are shown by suffixing small letters to the land capability classes. The numerals indicate progressively, greater limitations and narrower choices for a practical use.

**Table 2.8 Land Capability Classification for Thiruvarur District**

Sl. No.	Land Capability Classification (LCC)	Soil series	Extent (ha)	Per cent to Total
1	II – lands that have moderate limitations for sustained use Under agriculture.			
	IIs – Soil limitations	Kalathur, Alangudi, Adhanur, Pudugudi, Madukkur, Nedumbalam, Kivalur & Sikar	1,26,576	63.0
	IIs <sub>w</sub> – Soil and wetness associated limitations	Alathur	36,522	18.2
	IIs <sub>e</sub> – erosion and soil limitations	Pattukottai	31,568	15.7
2	III – Lands that have severe limitations for sustained use under agriculture			
	III <sub>s</sub> – Soil limitations	Melkadu & Sethi	4,568	2.3
	III <sub>s<sub>w</sub></sub> – Soil and wetness associated Limitations.	Kallivayal	1,535	0.8
<b>Total</b>			<b>1,00,769</b>	<b>100.00</b>

Source: Soil Atlas Thiruvarur

**Table 2.9 Season wise last 5 Years Rainfall Data****(Unit in mm)**

S.No	Season	Mean	2003	2004	2005	2006	2007
1	Winter (Jan-Feb)	71	-	438	1.2	12.71	18.86
2	Summer (March-May)	86	107.93	357.3	213.8	143.84	74.64
3	South West Monsoon (June-Sep)	305	279.07	15.42	208.4	272.87	404.142
4	North East Monsoon (Oct-Dec)	654	564.74	-	806.0	655.19	818.35
	<b>Total</b>	<b>1140</b>	<b>95.74</b>	<b>377.10</b>	<b>1229.4</b>	<b>1083.71</b>	<b>1315.99</b>

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.10 Land Holding Pattern of the Farmers, according to Category**

S.No	Category	Nos.	Area
1	Scheduled Caste	33360	19314 Ha
2	Scheduled Tribe	3	3 Ha
3	Others	134324	131210 Ha
4	All social group	167878	151702 Ha

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.11 Land Holding Pattern of Farmers according to Size of Holdings**

S.No	Category	Nos	Area
1	Marginal	123803	51195
2	Small	27501	38748
3	Semi medium	12361	33396
4	Medium	3807	21434
5	Large	406	6929
	<b>Total</b>	<b>157878</b>	<b>151702</b>

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.12 Sources of Irrigation**

<b>S.No</b>	<b>Category</b>	<b>Nos.</b>	<b>Area</b>
1	Canals-Govt.	13	141206
2	Canals-Private	0	0
3	Tubewells-Govt.	37	0
4	Tube wells-Private	4999	0
5	Wells-Govt.	37	110
6	Wells-Private	10931	14170
7	Tanks	0	0e

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.13 Net Area Irrigated**

<b>S.No</b>	<b>Sources</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
1	Canal	141206	141206	141206
2	Tank	-	-	-
3	Wells	-	-	-
4	Others if any	-	-	-
	<b>Total</b>	<b>141206</b>	<b>141206</b>	<b>141206</b>

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.14 Gross Irrigated Area**

<b>S.No</b>	<b>Sources</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
1	Canal	156526	156526	156526
2	Tank	-	-	-
3	Wells	-	-	-
4	Others if any	-	-	-
	<b>Total</b>	<b>156526</b>	<b>156526</b>	<b>156526</b>

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.15 Cropping Pattern - Irrigated**

S.No	Name of Crop	Area (irrigated/ Source)	Season
1	Paddy- Kuruvai	35859	
2	Samba	108817	
3	Thaladi	27525	
4	Summer	1500	
5	Total	173701	
6	Blackgram	51000	Rice fallow
7	Greengram	19000	“
8	Cotton	1221	“
9	Sugarcane	2921	Dec-Jan
10	Gingelly	4000	Rice fallow
11	Groundnut	3000	Masipattam

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.16 Production of Cash Crops – Irrigated**

(tonnes)

S.No	Name of crop	Production (Irrigated)	Season
1	Paddy Kuruvai	132678	Kuruvai
2	Samba	2661160	Samba
3	Thaladi	33030	Thaladi
4	Summer	6900	Summer
5	Blackgram	14280	Rice fallow
6	Greengram	5890	“
7	Cotton	1111	“
8	Sugarcane	309.6	Dec-Jan
9	Gingelly	1120	Rice fallow
10	Groundnut	3300	Masipattam

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.17 Productivity of Crops**

S.No	Name of crop	Yield Kg/Ha (Irrigated)	Season
1	Paddy Kuruvai	4314	Kuruvai
2	Samba	2382	Samba
3	Thaladi	4539	Thaladi
4	Summer	4648	Summer
5	Blackgram	281	Rice fallow
6	Greengram	813	“
7	Cotton	910	“
8	Sugarcane	106	Dec-Jan
9	Gingelly	280	Rice fallow
10	Groundnut	1100	Masipattam

Source: Assistant Director of Statistics, Thiruvarur

**Table 2.18 Extent of Yield Gap : 10-20per cent**

a.	Reason for yield gap	Non adoption of prescribed technology
		Non-availability of credit at the proper time
		Non-availability of inputs at this proper time
b	Technological gap	Top 3 technologies mostly adopted Seed treatment Fertiliser application - Plant Protection
		Top 3 technologies least adopted
		DAP Spray Plant Population maintenance INM

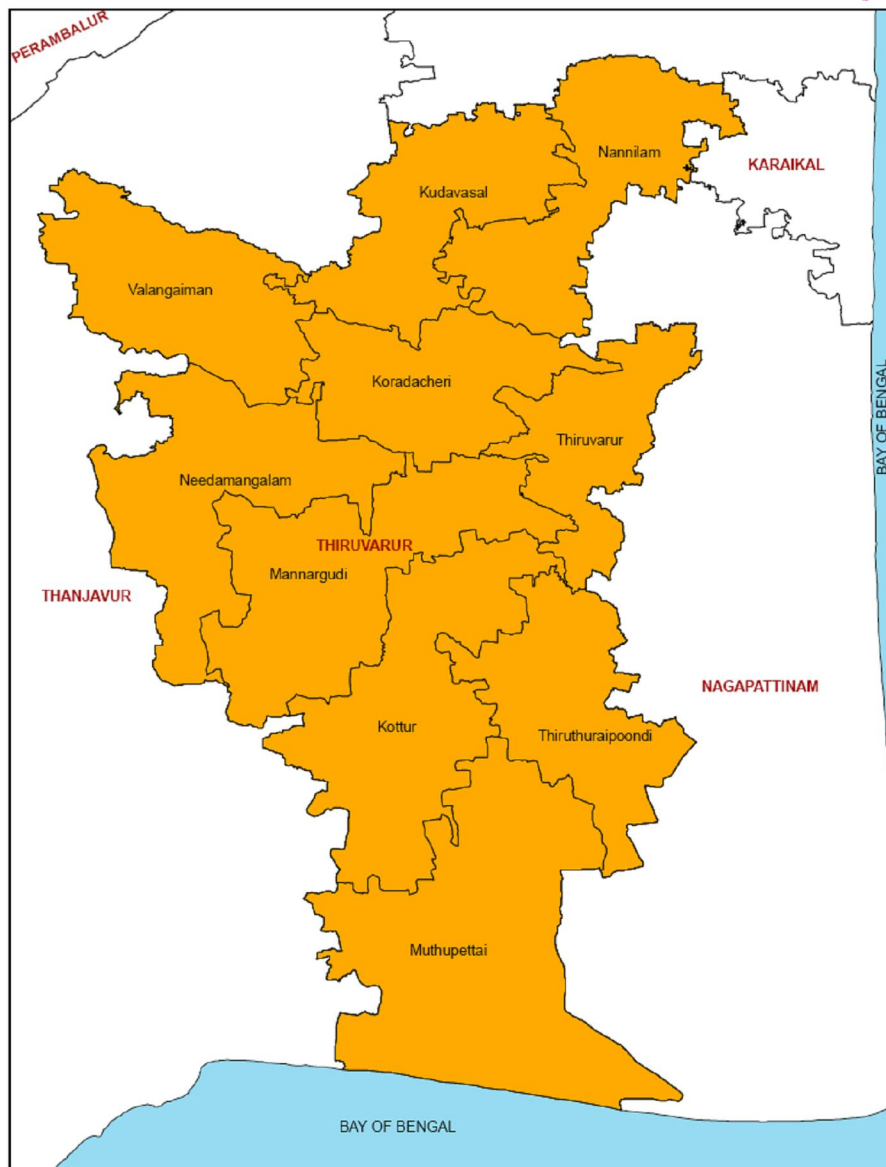
Source: Assistant Director of Statistics, Thiruvarur



**Table 2.19 Soils and Area in Hectares**

<b>Sl.No</b>	<b>Soil Description</b>	<b>Area (ha.)</b>
1.	Very deep, fine, montmorillonitic, Vertisols	51326.93
2.	Deep, fine, mixed, Inceptisols	32616.90
3.	Deep, fine, mixed, Alfisols	29488.51
4.	Moderately deep, fine, mixed, Alfisols	18787.74
5.	Very deep, fine, mixed, Entisols	14481.35
6.	Very deep, fine loamy, mixed, Ultisols	6509.76
7.	Deep, fine, montmorillonitic, Vertisols	6260.03
8.	Very deep, fine loamy, mixed, Alfisols	5815.15
9.	Deep, fine, mixed, Ultisols	5624.05
10.	Very deep, fine, mixed, Inceptisols	5360.08
11.	Moderately shallow, fine loamy, mixed, Inceptisols	5282.52
12.	Very deep, fine loamy, mixed, Inceptisols	5046.95
13.	Very deep, coarse loamy, mixed, Inceptisols	3346.97
14.	Deep, fine loamy, mixed, Ultisols	2837.80
15.	Deep, fine loamy, mixed, Alfisols	2735.42
16.	Deep, fine silty, mixed, Inceptisols	1834.33
17.	Very deep, coarse loamy, mixed, Entisols	1572.70
18.	Moderately shallow, fine loamy, mixed, Alfisols	610.09
19.	Deep, fine loamy, mixed, Inceptisols	374.69
20.	Shallow, clayey, mixed, Entisols	123.03
21.	Deep, coarse loamy, mixed, Entisols	62.71
22.	Very deep, fine loamy, mixed, Entisols	45.00

### AGROCLIMATIC ZONES OF THIRUVARUR DISTRICT



Legend  
Cauvery Delta Zone



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

**NORTH EASTERN ZONE**

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

**NORTH WESTERN ZONE**

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

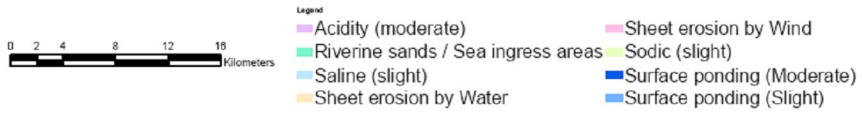
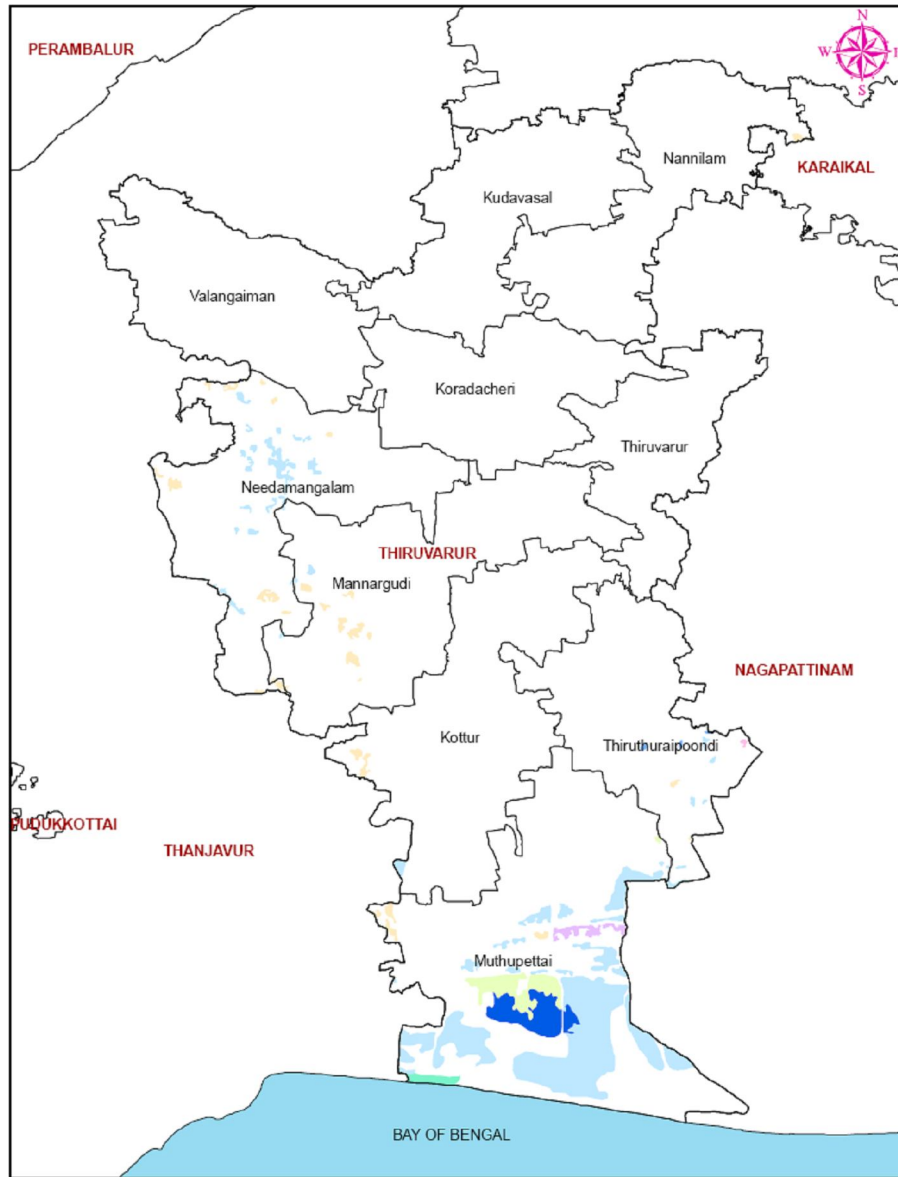
**HIGH RAINFALL ZONE**

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 THIRUVARUR 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.



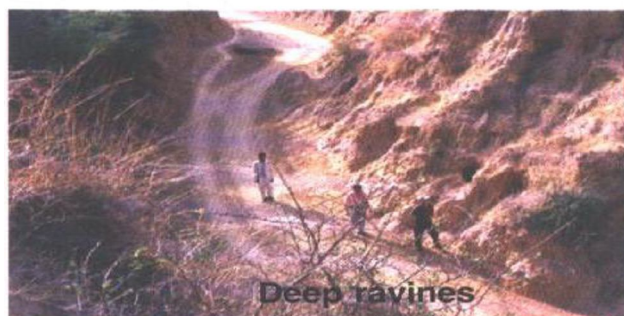
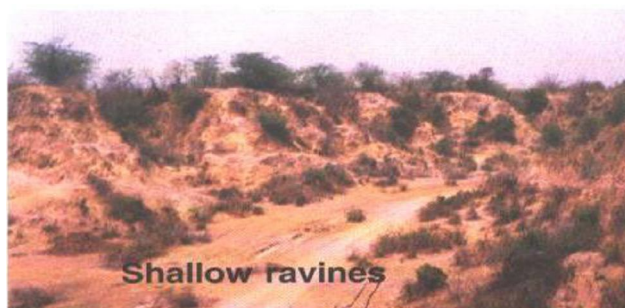
### 3. Gullies

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 or 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 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 on 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 within 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  $>4\text{ds/m}$  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.





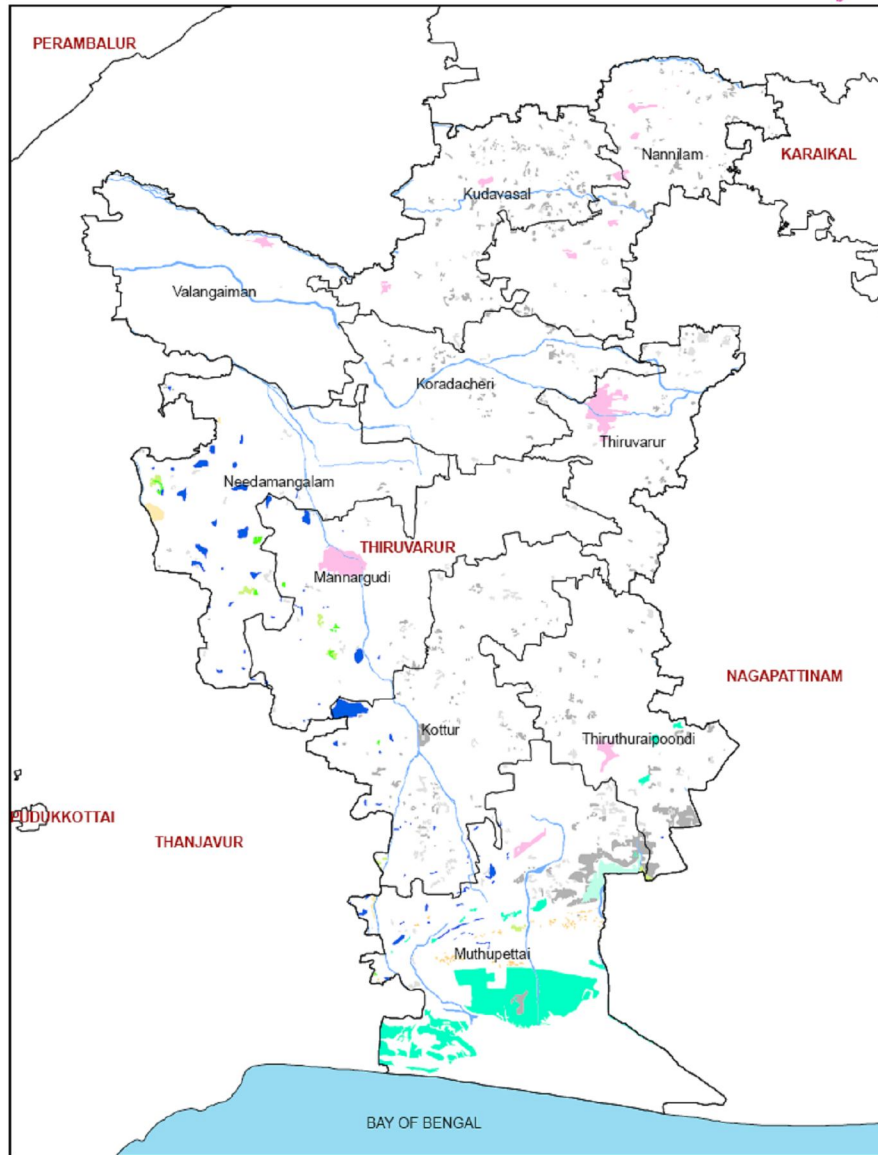
### **19. Miscellaneous**

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



**Sea Ingress areas**

WASTELAND MAP OF THIRUVARUR DISTRICT



- Legend
- Degraded land under plantation crops
  - Land with Scrub
  - River
  - Saline/Alkaline - Moderate
  - Saline/Alkaline - Slight
  - Sands (tank/river bed)
  - Sands -Coastal Sand
  - Settlement
  - Water bodies (Ponds/Tank/ Reservoir)
  - Waterlogged and marshy -Permanent
  - Waterlogged and marshy -Seasonal



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 ravenous land. The word '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).

## **CHAPTER - III**

### **SWOT ANALYSIS OF THE DISTRICT**

#### **Strength**

- Assured Channel Irrigation
- Soil with high water holding capacity
- Average land holdings of 1 acre
- Marine eco system

#### **Weakness**

- Mono cropping
- Sea water intrusion
- Clay soil with water logging nature.
- Less thrashing floor and storage facilities.
- Mind set of farmers not to go for alternate crop.
- Shortage of labour.

#### **Opportunities**

- Farm mechanization
- More area under cotton. Oil seeds etc.
- More are under vegetable and fruit crops.
- More area under medicinal plants such as Vasambu.
- More are under Bamboo
- Contract farming in maize. Pulses and cotton cultivation.
- Value addition in pulses.

#### **Threat**

- Recharging of Ground water table.
- Rain water harvesting structures
- Drainage system
- Extraction of Rice bran oil from paddy husk.
- Extraction of paper industry
- Vision and strategy of Thiruvarur District.

### **Vision**

- Area Expansion under cotton, oil seeds and coconut.
- Increasing production in cotton and oilseeds.
- Restoring Soil facilities.
- Agricultural mechanization.

### **Strategy**

- Creating awareness thro' campaigns
- Imparting new technologies through Trainings, exposure visits, study tour kisan melas.
- Conducting demonstrations.
- Issue of soil health cards.
- Promotion of Agri clinics.
- Promotion of agricultural implements thro' farmers interest Groups and TANWABE Groups.
- Conduction of farmer – scientists' interactions thro' workshops and seminars.

### **Composite Index of Agricultural Development of Thiruvarur 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 100per 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

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

Where  $\text{Min } X_{id}$  and  $\text{Max } X_{id}$  are the minimum and maximum of  $(X_{i1}, X_{i2}, \dots, X_{in})$  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

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

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 Thiruvarur district is taken from various government publications like Season and Crops Report and Economic Appraisal of Tamil Nadu for the four year periods 1990-91, 1995-96, 2000-01 and 2005-06. In all, 25 indicators of agricultural development as given in Table 3.1 were used for estimating the composite index of development for the district. The 25 indicators were grouped into six different 'components': i) Crop-Area-Variables (10) ii) Irrigation (7) iii) Livestock (3) iv) Fisheries (1) v) Fertilizer (3) and vi) Cultivators-Labourers (2).

The analysis showed that Thiruvarur district which was classified as 'developed' in agricultural development during 90-91 and 2000-01, for the remaining two periods *viz.*, 1995-96 and 2005-06 it was classified as 'highly developed'. In terms of overall agricultural development its rank among the 29 districts of Tamil Nadu varied from 1 to 10 during the 1990-91 to 2005-06. As for as the individual components of agricultural development are concerned, its ranks in the above periods

are summarized in the following Table 3.2. The table shows that, in all the components its performance in the period of study is good. For example, in irrigation its ranks varied from 4 to 7 in all the four periods. Similarly in crop area variables also it occupied between 1<sup>st</sup> and 6<sup>th</sup> ranks.

**Table 3.1. Selected Indicators of Agricultural Development for Thiruvarur District**

<b>Component</b>	<b>Indicators</b>	<b>No. of Indicators</b>
Crop-Area-Variables	<b>Cropping Intensity</b>	10
	Percent of Gross Cropped Area to Total geographical area	
	Percent Share of food grains to Gross Cropped Area	
	Percent Share of food crops to Gross Cropped Area	
	Percent Share non food crops to Gross Cropped Area	
	Percent Share of cultivable waste to total geographical area	
	Percent Area under High Yielding Variety-PADDY	
	Percent Area under High Yielding Variety-CHOLAM	
	Percent Area under High Yielding Variety-CUMBU	
Irrigation	Irrigation Intensity	7
	Percent of Gross Irrigated Area to Gross Cropped Area	
	Percent of Net Irrigated Area to net area sown	
	Percent Area under Canal Irrigation to Gross Irrigated Area	
	Percent Area under Tank Irrigation to Gross Irrigated Area	
	Percent Area under Well Irrigation to Gross Irrigated Area	
	Percent 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	Percent of Cultivators to total population	2
	Percent of Agri.labourers to total workers	
<b>Total</b>		<b>25</b>



**Table 3.2. Rank of Thiruvarur 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	6	6	27	-	-	28	10
	1995-96	5	4	10	6	6	6	4
	2000-01	1	4	23	12	13	3	1
	2005-06	2	7	18	17	16	13	10

## CHAPTER - IV

### DEVELOPMENT OF AGRICULTURE SECTOR

#### Introduction

Basically Thiruvarur is an agricultural district located in Cauvery delta and started functioning as a separate district from 01-08-1997 followed by the bifurcation of Nagapattinam District. The land area of the district is of 2161 sq.km and situated on the east coast of Tamilnadu between 10°20' and 11°07' in the North latitudes 79°15' and 79°25' in the East longitudes.

It comprises 7 taluks and 10 blocks and 2097.09 ha of Geographical area out of T.N Total Geographical area. The total cultivated area (ha) is 237715 and the net area sown (ha) 153227 and the area sown more than once (Ha): 84488. The details of ongoing programmes in the agriculture sector are furnished in Table 4.1 and Table 4.2.

**Table 4.1 On-Going Programmes in the District****(Rs. in lakhs)**

Sl. No.	SCHEMES	Sanctioned Amount	BE	RE	FMA	Expenditure	Percent of Achmt. W.r.t Sanctioned amount	Percent of achmt. Wrt BE
	<b>State Schemes</b>							
<b>A</b>	I. Part I Schemes	159.6145	250.9535	250.9535	0	251.70663	158	100.3
	II. Part II Schemes		Targets	not	yet	received	0	0
	<b>Total</b>	159.6145	250.9535	250.9535	0	251.70663	158	100.3
<b>B</b>	<b>Schemes Shared between Centre and State</b>							
1	Integrated Scheme for Oilseeds, Pulses, Oilpalm and Maize (ISOPOM) (75:25)	130.0241	151.134	151.134	0	78.48813	60	52
2	Technology Mission Mode Scheme (75:25)	2.531	2.031	2.031	-	2.0291	80.2	100
3	Macro Management Mode Schemes (90:10)	71.39	68.69	68.69	0	68.92362	96	100
4	Coconut Development Board Schemes (50:50)	0	0	0	0	0	0	0
5	Centrally Sponsored Schemes (100per cent)	18.261	24.361	24.361	0	22.748	125	93
	<b>Total</b>	<b>222.2061</b>	<b>246.216</b>	<b>246.216</b>	<b>0</b>	<b>172.18885</b>	77	70
	<b>Grand Total (A + B)</b>	<b>381.8206</b>	<b>497.1695</b>	<b>497.1695</b>	<b>0</b>	<b>423.89548</b>	111	85

**Table 4.2 List of Schemes Implemented during last 3 years**

S. No	Name of the Scheme	2004-05				2005-06				2006-07			
		Objective	Area	Beneficiary Nos	Achmt Lakh Rs.	Objective	Area	Beneficiary Nos	Achmt Lakh Rs	Objective	Area	Beneficiary Nos	Achmt Lakh Rs.
1	SMS-Paddy	Increasing rice Production	1.49	20	152.7	Increasing rice Production	1.58	22	84.8	Increasing rice Production	1.70	20	149.0
2	SMS-Pulses	“	0.65	34	5.27	“	0.68	36	10.01	“	0.85	35	2.06
3	IPOS	“	0.023	5	3.30	“	0.02	7	3.4	“	0.04	5	3.01
4	SMS-Cotton	“	0.037	2	3.49	“	0.014	2	3.00	“	0.003	2	3.233
5	Crop & Plant Protection	“	-	-	3.50	“	-	-	6.141	“	0	0	5.68
6	ICDP-Rice	Increasing Rice Production	-	24250	11.772	Increasing Rice Production	-	28050	20.435	Increasing Rice Production	-	27200	38.0
7	NPDP	Increasing Pulses Production	-	10750	22.16	Increasing Pulses Production	-	11500	3.68	Increasing Pulses Production	-	12304	39.88
8	ICDP-Cotton	Increasing Cotton Production	-	3200	5.09	Increasing Cotton Production	-	4200	7.565	Increasing Cotton Production	-	4300	3.646
9	OPP	Increasing Oilseeds Production	-	1120	2.08	Increasing Oilseeds Production	-	1500	1.844	Increasing Oilseeds Production	-	1650	2.86

Table 4.2 Contd.....

S. No	Name of the Scheme	2004-05				2005-06				2006-07			
		Objective	Area	Beneficiary Nos	Achmt Lakh Rs.	Objective	Area	Beneficiary Nos	Achmt Lakh Rs	Objective	Area	Beneficiary Nos	Achmt Lakh Rs.
10	Coconut Dev.Board Scheme	Increasing Coconut Production	-	215	2.575	Increasing Coconut Production	-	200	3.65	Increasing Coconut Production	-	250	5.575
11	OPDP	Increasing Oilpalm Production	-	415	40.88	Increasing Oilpalm Production	-	520	3.98	Increasing Oilpalm Production	-	780	67.84
12	FIG	To create knowledge dissemination center	-	225	0.75	To create knowledge dissemination center	-	300	1.0	To create knowledge dissemination center	-	300	1.758
13	TANWABE	To increase the income of farm women	-	-	-	To increase the income of farm women	-	10500		To increase the income of farm women	-	7500	17.5
14	SUBACS	To increase the production of Sugarcane	-	-	-	To increase the production of Sugarcane	-	120	0.343	To increase the production of Sugarcane	-	-	-

### 4.3. Particulars of the District

Area under SRI paddy	-	52000 Ha
Area under INM	-	NIL
Area under IPM	-	2000 Ha
Area under Organic farming	-	200 Ha
Area covered by precision farming	-	NIO

Adoption of improved technologies particularly in Rice other than SRI and Adoption level.

S. No	Technology	Adoption level
1	Seed Treatment	90 per cent
2	Split dose of N	80 per cent
3	Optimum Plant Population	60 per cent
4	IPM	40 per cent
5	INM	40 per cent

### 4.4. Major Key Areas-Priorities in Development of Agriculture

#### 1. Crop Diversification

Mono crop paddy can be replaced with Oilpalm, Pulses.

#### 2. Food Security

Increasing area and production of Pulses.

#### 3. SPM

Augmentation of farm income. Mixed farming can be motivated with all crops to get income throughout the year.

#### 4. Soil and Water Conservation and Management

More number of farm ponds can be dug

Water recharging structures can be done

Distribution of Gypsum/Lime

Distribution of micro nutrient

Training of farmers for promotion of organic forestry

**Table 4.3. Approaches and Strategies needed to Achieve the Objectives**

<b>S.No</b>	<b>Objective</b>	<b>Strategy to be followed</b>	<b>Responsible Department</b>
1	Crop diversification	1) Increasing area successfully under Oilpalm	Agriculture Department
		2. Increasing the Pulses Cultivation are and productivity	
2	Food security	1) Increasing area & Production of Pulses	
		2) Encouraging IPM & INM concepts	
3	Augmentation of farm income	Encouraging mixed farming	
4	Soil & water Management & Conservation	1. Improving soil health with organic farming	
		2. Digging of farm ponds	
		3. Creation of water recharging structures	
		4. Amelioration of soils	

**Table 4.4. Interventions needed to Implement the Strategies**

<b>S.No</b>	<b>Strategy</b>	<b>Activity proposed</b>	<b>Interventions</b>
1	Increasing area under Oilpalm & Pulses	1. Organising demonstration	Drip irrigation with 100per cent subsidy
		2. Creating awareness through training, Exposure visits	
2	Increasing area & Production of Pulses	1. Formation of FIG & its capacity building	DAP Spray
		2. Creating awareness through training & campaigns	
3	Encouraging IPM & INM concepts	1) Conducting of FFS	
4	Encouraging mixed farming	1. Creating awareness through training & Campaigns	
		2) Motivation of FIGs	
5	Improving soil health with organic farming	1. Organising demonstration & field days	
		2. Creating awareness through training & Campaigns	
6	Digging of more farm ponds	1. Organising Exposure visit	
		2. Creating awareness through training	
7	Creation of water harvesting & recharging structures	1. Organising demonstrations	
8	Amelioration of soils	1. Creating awareness through training & Campaigns	
		2. Organising demonstrations	



## 4.5 Budget Requirement

### 1. Crop Diversification

Drip irrigation in Oilpalm

100per cent subsidy 500 Ha = Rs.150 Lakhs

### 2. Food Security

100per cent subsidy for DAP =

(95000 Ha) (760 Tonnes) Rs.73.87 Lakhs

### 3. Augmentation of Farm Income

Mixed farming demonstration

100 Nos x Rs.50000/- Rs.50.00 Lakhs

### 4. Soil and Water Management and Conservation

Vermi compost demonstration 1000 Nos x Rs.20000/- Rs.,20.0 Lakhs

Distribution of Green manure seeds 100 T @ Rs.30/kg Rs.20.0 Lakhs

Digging of farm ponds 100 Nos x Rs.40000 Rs.40.0 Lakhs

Creation of water harvesting & recharging structures

100 Nos @ Rs.40000/- = Rs.40.0 Lakhs

Amelioration of soils

Distribution of Gypsum @ 1500/Ha = Rs.15.0 lakhs

1000 Ha

**Total = Rs.408.87 Lakhs**

**CHAPTER - V**  
**ALLIED SECTORS**

**5.1 Horticulture Sector**

**Table 5.1 Integrated Horticulture Development Scheme**

Sl No.	Name of the Schemes	Components of the Schemes
<b>A)</b>	<b>Integrated Horticulture Development Scheme</b>	
	a) Fruits	Distribution of TC Banana, Mango Grafts, Guava Layers, Sapota Grafts, Lime, Pomagranate etc. at 50 per cent subsidy.
	b) Vegetable	Distribution of all Vegetable Seeds (improved vars. and hybrids) at 50 per cent subsidy.
	c) Spices	Distribution of Tamarind Grafts. Chilli Seeds etc., at 50 per cent subsidy.
	d) Medicinal	Distribution of Amla and other Medicinal Crop Plants / Seeds at 50 per cent subsidy.
<b>B)</b>	<b>Micro Irrigation Scheme</b>	
	Drip Irrigation Scheme	Installation of Drip Irrigation System in Horticulture Crops in the farmers' field at 50 per cent subsidy. Maximum 5 ha Per Beneficiary family.

**C) National Bamboo Mission Scheme**

<b>Sl. No.</b>	<b>Programme</b>	<b>Estimated Cost</b>	<b>Revised Pattern of Assistance</b>
<b>A) Research &amp; Development</b>			
<b>1. Research on</b>			
a)	Harvesting & sustainable Development	Project based	100 per cent to Public/Private Sector Institutes
b)	Developing new Bamboo Agro forestry techniques	-do-	-do-
c)	Bamboo & Livelihood	-do-	-do-
<b>B) Plantation Development</b>			
<b>1. Planting Material (Forest Area)</b>			
<b>A) Centralized Nurseries</b>			
i)	Public Sector (0.25 ha)	2.73	100 per cent assistance subject to maximum @ 2.73 lakhs per Nursery.
ii)	Private Sector (0.25 ha)	2.73	25 per cent of cost subject to maximum of Rs.68,000 each as credit linked back ended subsidy.
<b>B) Nurseries in Private Sector</b>			
i)	Kissan Nurseries (0.10 ha)	Rs.26,000/ per unit	25 per cent of cost subject to a maximum of Rs.6,500/- per Nursery.
ii)	Mahila Nurseries (0.10 ha)	Rs.26,000/ per unit	25 per cent of cost subject to a maximum of Rs.6,500/- per Nursery.

**Table 5.1 Contd...**

<b>Sl. No.</b>	<b>Programme</b>	<b>Estimated Cost</b>	<b>Revised Pattern of Assistance</b>
<b>2. Planting Material (Non-Forest Area)</b>			
<b>A) Centralized Nurseries</b>			
i)	Public Sector (0.25 ha)	2.73	100 per cent assistance subject to maximum @ 2.73 lakhs per Nursery.
ii)	Private Sector (0.25 ha)	2.73	25 per cent of cost subject to maximum of Rs.68,000 each as credit linked back ended subsidy.
<b>B) Nurseries in Private Sector</b>			
i)	Kissan Nurseries (0.10 ha)	Rs.26,000/ per unit	25 per cent of cost subject to a maximum of Rs.6,500/- per Nursery.
ii)	Mahila Nurseries (0.10 ha)	Rs.26,000/ per unit	25 per cent of cost subject to a maximum of Rs.6,500/- per Nursery.
<b>A) Research &amp; Development</b>			
3.	Funds for Certification of Planting Material	Project based	100 per cent assistance to Public/Private Sector Institutes
4. a)	Tissue Culture Units in Public Sector (Nos)	Rs.21.00 lakhs per TC unit	100 per cent assistance to PSUs, maximum of Rs.21.00 lakh.

**Table 5.1 Contd...**

<b>Sl. No.</b>	<b>Programme</b>	<b>Estimated Cost</b>	<b>Revised Pattern of Assistance</b>
b)	Tissue Culture Units in Private Sector (Nos)	Rs.21.00 lakhs per TC unit	50 per cent assistance subject to a maximum of Rs.10.50 lakhs as credit linked back ended subsidy at par with Technology Mission for the Development of North-Eastern Region (TMNE)
<b>5. Area Expansion (Captive Plantation)</b>			
a)	Forest Area through JFMCs (ha)	Rs.25,000/ha	100 per cent assistance in two equal installments (50:50)
b)	Non Forest Area through NGOs, SHGs, Individual Farmers, Farm Associations (ha)	Rs.16,000/ha	50 per cent of cost subject a maximum of Rs.8, 000/- per ha subject to the limit 4 ha per / beneficiary.
<b>6. Improvement of Existing Stock (ha)</b>		Rs. 8,000/ha	100 per cent assistance subject to the limit 2 ha per beneficiary for non-forest area.
<b>7. Technology Transfer &amp; HRD</b>			
a)	Training of Farmers / entrepreneurs	Project Based	Rs.1520/- per participant for within State:Rs.2500/- each outside State of seven days.
b)	Training of field Functionaries	Project Based	Rs.8000/- per participant for a period of seven days.

**Table 5.1 Contd...**

<b>Sl. No.</b>	<b>Programme</b>	<b>Estimated Cost</b>	<b>Revised Pattern of Assistance</b>
c)	Demonstration of Plantation Technology	Project Based	50 per cent of cost subject to a maximum of Rs.10,000/ha. for a maximum area of 0.50 ha per beneficiary.
d)	Workshops / Seminars / Training	Project Based	100 per cent assistance.
i)	International Level	Project Based	100 per cent assistance subject to a maximum of Rs.40 lakhs.
ii)	National Level	-do-	100 per cent assistance subject to a maximum of Rs.5.00 lakh per event of two days.
iii)	State Level	-do-	100 per cent assistance subject to a maximum of Rs.3.00 lakh per event of two days.
iv)	District Level	-do-	100 per cent assistance subject to a maximum of Rs.1.00 lakh per event of two days.
<b>A) Research &amp; Development</b>			
8.	Pest and Disease Management >At the Plantation Level (ha)	Rs.400/ha	50 per cent of cost subject to a maximum of Rs.200/- per beneficiary per ha to a limit of 2 ha for non-forest area.
9.	Innovative Interventions	Project Based	100 per cent assistance

**Table 5.1 Contd...**

<b>Sl. No</b>	<b>Programme</b>	<b>Estimated Cost</b>	<b>Revised Pattern of Assistance</b>
10.	Post harvest storage and treatment facilities	Project Based	100 per cent assistance subject to maximum of Rs.20 lakh per unit
11.	Irrigation		
	Micro Irrigation in Non Forest Area (ha)	Rs.40,000/- ha	50 per cent of cost subject to a maximum of Rs.20000/- per ha to a limit of 4 ha. per beneficiary.
<b>C. Exports</b>			
a)	Bamboo Wholesale & Retail Markets near Villages (Nos.)	Rs.16,00 lakhs per unit	25 per cent of cost subject to a maximum of Rs.4.00 lakh for general areas and 33.33 per cent of cost subject to a maximum of Rs.5.33 lakh for Hilly / Tribal area.
b)	Bamboo Bazars (Nos.)	Rs.27.00 lakhs per unit	25 per cent of cost subject to a maximum of Rs.6.75 lakh for general areas and 33.33 per cent of cost subject to a maximum of Rs.9.00 lakh for Hilly / Tribal area.

**Table 5.1 Contd...**

<b>Sl. No.</b>	<b>Programme</b>	<b>Estimated Cost</b>	<b>Revised Pattern of Assistance</b>
c)	Retail Outlets (Showrooms) (Nos.)	Rs.40.00 lakhs per unit	25 per cent of cost subject to a maximum of Rs.10.00 lakh for general areas and 33.33 per cent of cost subject to a maximum of Rs.9.00 lakh for Hilly / Tribal area.
d)	Innovative interventions	Project Based	100 per cent assistance
2.	Participation in Domestic Trade Fairs	Project Based	75 per cent of cost (Rs.3.75 lakh) for an event of 2 days @ Rs.5 lakhs per event
3.	Participation in International Trade Fairs	-do-	75 per cent of cost (Rs.7.5 lakh) for an event of 5 days @ Rs.10.00 lakhs per event
4.	Conducting of Market Surveys, etc	-do-	100 per cent of cost.
<b>D. Implementation Monitoring Mechanism</b>			
<b>A) Research &amp; Development</b>			
<b>1. National Bamboo Cell</b>			
a)	Evaluation and Monitoring	Project Based	100 per cent of cost
b)	Bamboo Technical Support Group	-do-	100 per cent of cost for engaging consultancy for specified tasks in specified period.
c)	Coloured Brouchures and Leaflets	-do-	100 per cent of cost.
d)	Promotional campaigns through Electronic / Audio-visual Media / Newspapers	-do-	100 per cent of cost.



**Table 5.1 Contd...**

Sl. No.	Programme	Estimated Cost	Revised Pattern of Assistance
e)	Database Generation & Management (Information, Web Based Database)	-do-	100 per cent of cost to Central / State level institution / ICAR / ICFRE etc.
2.	State Implementation Bodies	-do-	
	Project Report Preparation, Consultancy.		Upto 1.5 per cent of the project etc.

Targets have been given currently for the marked items for implementation in this district.

## **5.2 Animal Husbandry Sector- Base Line Information**

### **Base Line Information**

District wise Livestock Population Growth Rates (1997 – 2004)

(Annual Compound Growth Rate in per cent)

Dairy Farming: (Cattle and Buffalo )

Population (2004)

Cattle	–	3, 32,124
Buffalo	–	8,286

Productivity (1998-99 to 2006-07)

(Annual Compound Growth Rate in per cent)

Indigenous cow	:	3. 54
Crossbred cow	:	0.37
Buffalo	:	0.61

### **Average production of livestock commodity**

**(Normal production – 2004-05 to 2006-07)**

Cow milk	:	1, 34,740 ton
Buffalo milk	:	13,290 tons

**Demand and Supply of Fodder (2004) million ton per year**

Green fodder:	Demand: 2.7,055	Supply: 0.2802	Deficit per cent:
	89.6		
Dry fodder :	Demand: 1.632	Supply: 2.574	Deficit per cent
	57.7		

**Strength, Gaps and Intervention****Strength**

- Water and land resources available for fodder cultivation
- Potential for integrated farming system approach.
- Active SHG network

**Weakness**

- Shortage of green fodder
- Quality animals not available
- Labour not available

**Intervention Required**

- Establishment of fodder nurseries in villages
- Improved nutrition and health care through Ethno Veterinary Medicine
- Capacity building in scientific livestock management

**Road Map for Improvement**

- Feed and Fodder - Seed materials for fodder cultivation.
- Improvement of livestock Health – Vaccine availability / cold storage facilities
- Extension facilities - Sensitizing Veterinarians & farmers on Ethno Veterinary Medicine for primary health care of livestock / eco-friendly.

### 5.3 Fisheries Sector-Baseline Information

#### Baseline Information

- Flood plain of the Cauvery delta
- Scope for Inland fish culture - enormous
- Cluster development of carp culture at Thillaivilagam
- 7000 ha brackish water resources
- Existing farms – 179 (water spread area of 510 ha)
- 5 private hatcheries (capacity of 90 million early fry annually)
- Fingerling production - 66.5 lakhs against requirement of 131.4 lakhs by private farmers
- 10 numbers of fish whole sale markets
- Great scope for development of Inland fish farming and brackish water shrimp farming

#### Gaps Identified

- ❖ Located at distal end of Cauvery riverine system- prone to frequent flooding during monsoon seasons.
- ❖ Fish culture - an ideal alternate avocation for delta riots.
- ❖ Mismatch of major carp breeding season & water availability in tanks.
- ❖ Lack of proper infrastructure facilities for seed rearing, fish landing & marketing.
- ❖ The average present fish production in long season tanks - 360 kg/ha against its potential of 2000 kg/ha.
- ❖ Fish culture in natural small water system - practiced by stock & harvest system and not scientifically.

#### Intervention Required Areas

- ❖ Infrastructure development to attain self sufficiency in fish seed production through private and Government.
- ❖ Expansion of fish culture in hitherto unutilized water bodies.
- ❖ Renovation of existing infrastructure facility for aquaculture.
- ❖ Provision of support for retail fish marketing.
- ❖ Infrastructure development for demonstration of integrated coastal aquaculture
- ❖ Improving the fishing efficiency in inland water bodies.
- ❖ Capacity building to fish farmers

## **5.4. Agricultural Credit**

### **5.4.1. 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 fund "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 mobilisation 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 Programme 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 percolation 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 Thiruvarur district is furnished in Table 5.2.

**Table 5.2. Activity Wise Credit Disbursement and Projection under  
Agricultural and Allied Sectors in Thiruvarur District**

**(Rs in lakhs)**

<b>Sectors</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>
Crop loan	36991.90	38841.50	40783.57	42822.75
Term loan		0.00	0.00	0.00
Micro Irrigation	677.00	710.85	746.39	783.71
Land Development	105.93	111.23	116.79	122.63
Farm Mechanization	3438.83	3610.77	3791.31	3980.88
Plantation & Horticulture	27.80	29.19	30.65	32.18
Forestry & Waste land Development	18.00	18.90	19.85	20.84
Dairy Development	1272.87	1336.51	1403.34	1473.51
Poultry	12.70	13.34	14.00	14.70
Sheep/Goat/Piggery	80.73	84.77	89.00	93.46
Fisheries	141.35	148.42	155.84	163.63
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	228.31	239.73	251.71	264.30
Sub total - Term loan	6003.52	6303.71	6618.88	6949.84
Total Agriculture Credit (1+2)	42995.42	45145.21	47402.45	49772.59
Non Farm sector	1688.98	1773.43	1862.10	1955.21
Other Priority Sector	11059.71	11612.70	12193.33	12803.00
<b>Grand Total</b>	<b>55744.11</b>	<b>58531.34</b>	<b>61457.88</b>	<b>64530.80</b>

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. 58531.34 Rs. 61457.88 and Rs. 64530.80 lakhs respectively. The total flow of agriculture credit in terms of crop loan and term loan in 2011-12 would be Rs. 49772.59 lakhs. The flow of credit for non farm sector and other priority sectors in 2011-12 would be Rs. 1955.21 and 12803.00 lakhs respectively.

## **CHAPTER - VI**

### **DISTRICT PLAN**

#### **6.1 Agriculture**

##### **6.1.1. Integrated Development of Major Food Crops-Cotton-Rice Fallow**

###### **(i) Back ground / Problem Focus**

In Tiruvarur District about 1221 Ha of cotton is cultivated in 5 blocks, which contributes a small portion to the gross cultivated area. Since the soil is suitable for cotton cultivation in all blocks of Tiruvarur District, more area will be brought under cotton cultivation. The prevailing season is the rice fallow cotton. To increase the area and also increase the productivity of cotton, in order to increase the income level of the farmers, more emphases should be given to distribution of hybrid variety seeds to farmers.

###### **(ii) Project Rationale**

Farmers are now cultivating hybrid varieties which sometimes results in major failure. So in order to stabilize and to get the assured output, farmers may be provided with high yielding variety seeds.

###### **(iii) Project Strategy**

Awareness campaigns will be conducted at the field level regarding the cotton cultivation and their knowledge about high yielding variety should be dealt through trainings and demonstrations.

###### **(iv) Project Goals**

By distribution of high yielding varieties in cotton, more area will be brought under cotton and the productivity will also get increased.

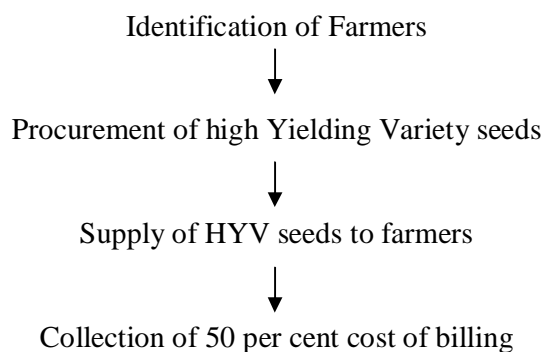
###### **(v) Project Components**

Distribution of high yielding variety @ Rs.20/kg.



**(vi) Project Cost and Financing**

High yielding varieties will be supplied to the farmers at subsidised rate. The subsidy will be availed from NADP fund. The remaining amount will be collected from the farmers and paid to the suppliers.

**(vii) Implementation Chart of the Project****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer, the Director, CARDS, TNAU making copies to head of the Department.

**(xi) Abstract**

Cotton is cultivated in 5 blocks of Tiruvarur District to about 1221 Ha. More area will be brought under cotton by distributing High Yielding Variety seeds . The monthly progress report will be sent to the concerned nodal Officer.

**(x) Budget****Table 6.1. Budget details of Cotton- Rice Fallow Project**

Sl No.	Year of implementation	Physical (quintal)	Full cost Rs. in lakhs	Subsidy Rs. in lakhs
1	2008-09	44	1.76	0.88
2	2009-10	60	2.2	1.2
3	2010-11	56	2.24	1.12
4	2011-12	56	2.24	1.12
	<b>Total</b>	<b>216</b>	<b>8.44</b>	<b>4.32</b>

### **6.1.2 Distribution of Hybrid Seeds Packet at Rs.300/pkt.**

#### **(i) Background / Problem Focus**

In Thiruvarur District about 1221 Ha of cotton is cultivated in 5 blocks, which contributes a small portion to the gross cropped area. Since the soil is suitable for cotton cultivation in all blocks of Thiruvarur District. More area will be brought under cotton cultivation. The prevailing season is the rice follow cotton. To measure the area and also increase the productivity of cotton, in order to increase the income level of the farmers, more emphases should be given in distribution hybrid variety seeds to farmers.

#### **(ii) Project Rationale**

Farmers are now cultivating hybrid varieties which sometimes results in major failure. So in order to stabilize and to get the assured output, farmers may be provided with high yielding variety seeds.

#### **(iii) Project Strategy**

Awareness campaigns will be conducted at the field level regarding the usage of hybrid seeds and their knowledge about hybrid seeds will be enlightened through trainings and demonstrations.

#### **(iv) Project Goals**

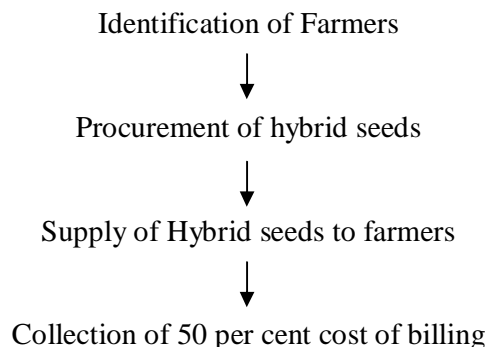
By distribution of hybrid seeds in cotton more area will be brought under cotton and the productivity will also get increased.

#### **(v) Project Component**

Distribution of hybrid seed packet @ Rs.300/packet.

#### **(vi) Project Cost and Financing**

Hybrid seeds will be supplied to the farmers at 50 per cent subsidy of the unit cost of Rs.300/packet. The 50 per cent subsidy will be availed from NADP fund. The remaining 50 per cent will be collected from the farmers and paid to the suppliers.

**(vii) Implementation Chart of the Project****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer, the Director, CARDS, TNAU making copies to head of the Department.

**(ix) Abstract**

Cotton is cultivated in 5 blocks of Thiruvarur District to about 1221 Ha. More area will be brought under cotton by distribution hybrid seeds at 50 per cent subsidy. The monthly progress report will be sent to the concerned Nodal Officer.

**(x) Budget****Table 6.2 Budget Details of Hybrid Seeds Packet****(Rs. in lakhs)**

<b>Sl No</b>	<b>Year of Implementation</b>	<b>Physical (Nos.)</b>	<b>Full cost</b>	<b>Subsidy</b>
1	2008-09	451	2.706	1.353
2	2009-10	572	3.432	1.716
3	2010-11	703	4.218	2.109
4	2011-12	835	5.01	2.505
	<b>Total</b>	<b>2646</b>	<b>15.36</b>	<b>7.683</b>

**6.1.3 Technology for IPM Demonstration at Rs.5000/Demo****(i) Back ground / Problem Focus**

In Thiruvarur District cotton is cultivated in 5 blocks about 1221 Ha, which accounts for a small portion to the gross cropped area. To increase the production and

productivity of cotton crop, IPM has to be adopted. Moreover, more occurrences of pests are noticed in cotton crop. To overtake the occurrence of pests, IPM Technology has to be motivated among the cotton growers. To overcome this, technology for IPM demonstration has to be followed.

**(ii) Project Rationale**

To increase the productivity of the cotton crop IPM technology has to be adapted cent percent.

**(iii) Project Strategy**

The Progressive Cotton grower has to be identified by the Agricultural Department staff. Demonstration plots have to be laid in their fields on IPM Technology.

**(iv) Project Goals**

By laying out IPM demonstration plots higher productivity can be achieved.

**(v) Project Components**

Technology for IPM Demonstration @ Rs.5000/demonstration.

**(vi) Project Cost and Financing**

All the inputs needed for IPM demonstration has to given to the farmers at cent percent subsidy i.e Rs.5000/per demonstration.

**(vii) Implementation Chart of the Project**



**(viii) Reporting**

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

**(ix) Abstract**

Cotton is cultivated about 1221 Ha. in Thiruvarur District. Pest is a major problem. For a successful cultivation IPM technology has to be disseminated among the farmers at cent percent subsidy. The monthly Progress will be reported to the Nodal Officer.

**(x) Budget****Table 6.3 Budget Details of Technology for IPM Demonstration**

Sl No	Year of implementation	Physical (Nos.)	100 per cent Subsidy Rs. in lakhs
1	2008-09	106	5.3
2	2009-10	145	7.25
3	2010-11	53	2.65
4	2011-12	143	7.15
	<b>Total</b>	<b>447</b>	<b>22.35</b>

**6.1.4 Farmers Field School @ Rs.17000/no.****(i) Back ground / Problem Focus**

In Thiruvarur District *cotton* is cultivate in 5 blocks about 1221 Ha, which accounts for a small portion to the gross cropped area of 145000 Ha. To increase the production and productivity of cotton crop, IPM has to be adopted by all farmers. To enlighten the knowledge of IPM among farmers, Farmers field schools has to be conducted @ Rs.17000/no.

**(ii) Project Rationale**

To overcome or to manage the pest occurrence in cotton crop, awareness to be created among the farmers through Farmers Field School to adopted IPM.

**(iii) Project Strategy**

Awareness about IPM has to be created through Farmers Field School. Farmers have to be trained 14 weeks regularly during the cropping season on all technologies under IPM.

**(iv) Project Goals**

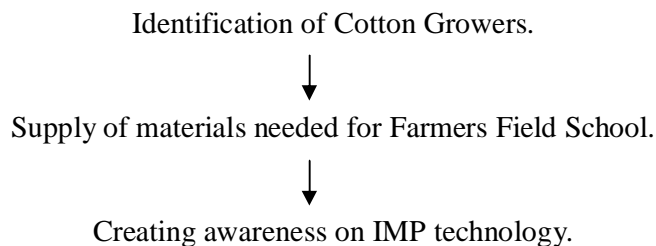
By conducting Farmers Field School awareness will be created among the farmers on IPM technology.

**(v) Project Component**

Conducting farmer's field schools @ Rs.17000/no.

**(vi) Project Cost and Financing**

Farmers Field School will be conducted continuously for 14 weeks by technical experts on IPM technology @ Rs.17000/no.

**(vii) Implementation Chart of the Project****(viii) Reporting**

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

**(ix) Abstract**

Cotton is cultivated about 1221 ha. in Thiruvarur District. Pest is a major problem. For a successful cultivation IPM technology has to be disseminated among the farmers through Farmers Field School. The monthly Progress will be reported to the Nodal Officer.

**(x) Budget****Table 6.4 Budget Detail of Farmers Field School**

<b>Sl. No.</b>	<b>Year of Implementation</b>	<b>Physical (Nos.)</b>	<b>Total cost Rs. in lakhs</b>
1	2008-09	16	2.72
2	2009-10	25	4.25
3	2010-11	16	2.72
4	2011-12	25	4.25
	<b>Total</b>	<b>82</b>	<b>13.94</b>

**6.1.5 Micro Nutrient Mixture Distribution at 50per cent Subsidy****(i) Background / Problem Focus**

In Thiruvarur District cotton is cultivated in 5 blocks about 1221 Ha, which accounts for a small portion to the gross cropped area. To increase the area and productivity of crop, supply of Micronutrient mixture has to be done since, micronutrient deficiency is more in cotton crop which results in lower yield.

**(ii) Project Rationale**

To Increase the Productivity of the Cotton crop, distribution of Micronutrient mixture has to be done to cotton growers at 50 per cent subsidy.

**(iii) Project Strategy**

Micronutrient deficiency has to be eliminated in the cotton crop through the distribution of micronutrient at 50 per cent subsidy to the farmers.

Distribution of micronutrient mixture to farmers at 50 per cent subsidy results in elimination of micronutrient deficiency completely in cotton crop which results in higher productivity.

**(iv) Project Components**

Distribution of micro nutrient mixture at 50 per cent subsidy to the farmers.

**(v) Implementation of the Project**

Identification of fields affected by micronutrient deficiency



Supply of micronutrient mixture at 50 per cent subsidy.



Adoption of integrated nutrient management.

**(vi) Project Cost and Financing**

Supply of Micronutrient to the cotton growers at 50 per cent subsidy to the farmers.

**(vii) Reporting**

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

**(viii) Abstract**

Cotton is cultivated in about 1221 ha in Thiruvarur District. To overcome micronutrient deficiency in cotton, micronutrient has to be distributed among the cotton growers at 50 per cent subsidy. The monthly progress will be reported to the Nodal officer.

**(ix) Budget**

**Table 6.5 Budget Details of Micro Nutrient Mixture distribution**

(Rs. in lakhs)

Sl No	Year of implementation	Physical Ha.	100 per cent Subsidy
1	2008-09	800	0.47040
2	2009-10	810	0.47628
3	2010-11	820	0.48216
4	2011-12	775	0.45570
	<b>Total</b>	<b>3205</b>	<b>1.88454</b>



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### **6.1.6 Distribution of Production Subsidy @ Rs.50/kg.**

#### **(i) Back ground / Problem Focus**

In Thiruvarur District cotton is cultivated in 5 blocks about 1221 Ha, which accounts for a small portion to the gross cropped area. To increase the area and productivity of crop, subsidy has to be given since the soil in all the blocks of Thiruvarur District suits for cotton cultivation which gives higher income to the farmers.

#### **(ii) Project Rationale**

To Increase the area under cotton, production subsidy has to be given to cotton growers at Rs.50/kg.

#### **(iii) Project Strategy**

Awareness campaign will be conducted among the farmers to switch over to cotton crop cultivation.

#### **(iv) Project Goals**

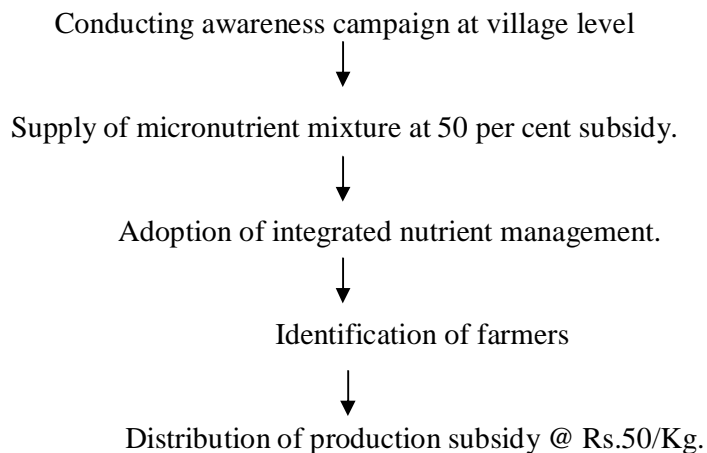
By giving production subsidy to the farmers more area will be brought under cotton cultivation.

#### **(v) Project Components**

Distribution of production subsidy @ Rs.50/kg.

#### **(vi) Project Cost and Financing**

Production subsidy will be given to farmers at Rs.50/kg to increase the area under cotton crop.

**(vii) Implementation of the Project****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer, the Director, CARDS, TNAU making copies to head of the Department.

**(ix) Abstract**

Cotton is cultivated in about 1221 Ha in Thiruvarur District which contributes to a small portion in gross cropped area. To cover more area under cotton, production subsidy has to be given to the farmers @ Rs.50/Kg subsidy. The monthly progress will be reported to the Nodal Officer.

**(x) Budget****Table 6.6 Budget Details of Distribution of Production Subsidy**

Sl No	Year of implementation	Physical (Qtl.)	Finance (Rs.)
1	2008-09	49	2.45
2	2009-10	49	2.45
3	2010-11	55	2.75
4	2011-12	20	2.25
	<b>Total</b>	<b>173</b>	<b>9.9</b>

### **6.1.7 Distribution of Seed Subsidy for Trap Crops @ 20/Kg. (Maize, Cowpea, Sunflower)**

#### **(i) Back ground / Problem Focus**

In Thiruvarur District about 1221 Ha. is cultivated under cotton, which contributes to a small portion of total cropped area. Pest is a major problem in cotton crop. To overcome the pest problem, trap crops have to be encouraged such as maize, cowpea, sunflower etc. for which Rs.20/Kg as seed subsidy has to be given.

#### **(ii) Project Rationale**

To Increase the Productivity of the Cotton crop and to overcome the pest problem, seed subsidy has to be given to the trap crops such as maize, cowpea, sunflower @ Rs.20/Kg.

#### **(iii) Project Strategy**

Awareness campaign will be conducted among the farmers to switch over to cotton crop and for the cultivation of trap crops to overcome the pest problem.

#### **(iv) Project Goals**

By giving seed subsidy for the trap crops such as maize, cowpea, sunflower etc, pest will be controlled in the cotton crop.

#### **(v) Project Component**

Distribution of seed subsidy for trap crops @ Rs.20/Kg.

#### **(vi) Project Cost and Financing**

Seed subsidy will be given for trap crops @ Rs.20/Kg. to overcome the pest problem in cotton.

#### **(vii) Implementation of the Project**

Conducting awareness campaigns at village level



Identification of farmers.



Distribution of production subsidy @ Rs.20/Kg.

**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer, the Director, CARDS, TNAU making copies to head of the Department.

**(ix) Abstract**

Cotton is cultivated in about 1221 Ha in Thiruvarur District which contributes to a small portion in gross cropped area. To overcome the pest problem in cotton, seed subsidy for trap crop has to be given to the farmers @ Rs.20/Kg. The monthly progress will be reported to the nodal officer.

**(x) Budget****Table 6.7 Budget details of Distribution of Seed Subsidy for Trap Crops**

Sl. No	Year of implementation	Physical (Qtls.)	Finance (Rs.)
1	2008-09	395	0.79
2	2009-10	505	1.01
3	2010-11	615	1.23
4	2011-12	720	1.44
	<b>Total</b>	<b>2235</b>	<b>4.47</b>

**6.1.8 Distribution of Production Subsidy for Breeder Seeds in Groundnut @ Rs.50/Kg.****(i) Back ground / Problem Focus**

In Thiruvarur District about 3000 Ha. are under Groundnut cultivation, which contributes to a small portion in gross cropped area. To increase the area and production of the Groundnut crop, production subsidy has to be given for breeder seeds @ Rs.50/Kg. Since it is a cash crop, it gives more income to the farmers so production subsidy has to be given to the farmers.

**(ii) Project Rationale**

To Increase the area under Goundnut cultivation, production subsidy has to be given to the farmers.

**(iii) Project Strategy**

Awareness campaign has to be conducted among the farmers to switch over to Groundnut cultivation.

**(iv) Project Goals**

By giving production subsidy to the farmers, more area will be brought under Groundnut cultivation.

**(v) Project Component**

Distribution of production subsidy for breeder seeds in groundnut @ Rs.50/Kg

**(vi) Project Cost and Financing**

Production subsidy has to be given to farmers @Rs.50/Kg to increase the area of Groundnut crop.

**(vii) Implementation of the Project**

Conducting awareness campaigns at village level for identification of farmers.



Distribution of production subsidy @ Rs.50/Kg.

**(viii) Reporting**

The progress reports have to be submitted to the nodal officers monthly.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha in Thiruvarur District which contributes to a small portion in gross cropped area. To increase the area under Groundnut, production subsidy has to be given to the farmers @ Rs.50/Kg. The progress has to be reported to the Nodal Officer monthly.

**(x) Budget****Table 6.8 Budget Details of Distribution of Production Subsidy for Breeder Seeds in Groundnut**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (00 Ha.)</b>	<b>Finance (Rs. in Lakhs)</b>
1	2008-09	430	2.15
2	2009-10	470	2.35
3	2010-11	410	2.05
4	2011-12	550	2.75
	<b>Total</b>	<b>1860</b>	<b>9.30</b>

**6.1.9 Distribution of Production Subsidy for Foundation Seeds in Groundnut @ Rs.25/Kg.****(i) Back ground / Problem Focus**

In Thiruvarur District about 3000 Ha. are under Groundnut cultivation, which contributes to a small portion in gross cropped area. To increase the area and production of the Groundnut crop, production subsidy has to be given for foundation seeds @ Rs.25/Kg. Since it is a cash crop, it gives more income to the farmers so production subsidy has to be given to the farmers.

**(ii) Project Rationale**

To Increase the area under Goundnut cultivation, production subsidy has to be given to the foundation seeds @Rs.25/kg.

**(iii) Project Strategy**

Awareness campaign has to be conducted among the farmers to switch over to Groundnut cultivation.

**(iv) Project Goals**

By giving production subsidy to the farmers, more area will be brought under Groundnut cultivation.

**(v) Project Component**

Distribution of production subsidy for foundation seeds in groundnut @ Rs.25/Kg.

**(vi) Project Cost and Financing**

Production subsidy has to be given for foundation seeds @Rs.25/Kg to increase the area of Groundnut crop.

**(vii) Implementation of the Project**

Conducting of awareness campaigns at village level



Identification of farmers.



Distribution of production subsidy @ Rs.25/Kg.

**(viii) Reporting**

The progress reports have to be submitted to the nodal officers monthly.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha in Thiruvarur District which contributes to a small portion in gross cropped area. To increase the area under Groundnut, production subsidy has to be given to the farmers @ Rs.25/Kg. The progress has to be reported to the nodal officer monthly.

**(x) Budget**

**Table 6.9 Budget Details of Distribution of Production Subsidy for Foundation Seeds in Groundnut**

Sl. No	Year of implementation	Physical (Kg)	Finance (Rs.)
1	2008-09	465	11.625
2	2009-10	590	14.750
3	2010-11	570	14.250
4	2011-12	750	18.750
	<b>Total</b>	<b>2375</b>	<b>59.375</b>

### **6.12.10 Distribution of Production Subsidy for Certified Seeds in Groundnut @ Rs.20/Kg.**

#### **(i) Back ground / Problem Focus**

In Thiruvarur District about 3000 Ha. are under Groundnut cultivation which contributes to a small portion in gross cropped area. To increase the area and production of Groundnut crop, production subsidy has to be given for certified seeds @ Rs.20/Kg. Since it is a cash crop, it gives more income to the farmers; production subsidy has to be given for certified seeds.

#### **(ii) Project Rationale**

To increase the area under Goundnut cultivation, production subsidy has to be given to certified seeds @ Rs.20/Kg.

#### **(iv) Project Strategy**

Awareness campaign has to be conducted among the farmers to switch over to Groundnut cultivation.

#### **(v) Project Goals**

By giving production subsidy, for certified seeds, more area will be brought under Groundnut cultivation.

#### **(v) Project Component**

Distribution of production subsidy for certified seeds @ Rs.20/Kg

#### **(vi) Project Cost and Financing**

Production subsidy has to be given for certified seeds @ Rs.20/Kg.

#### **(vii) Implementation of the Project**

Conducting awareness campaigns at village level



Identification of farmers.



Distribution of production subsidy for certified seeds @ Rs.20/Kg.



**(viii) Reporting**

The progress reports have to be submitted to the nodal officers monthly.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha. in Thiruvarur District which contributes to a small portion in gross cropped area. To increase the area under Groundnut, production subsidy has to be given for certified seeds @ Rs.20/Kg. The progress has to be reported to the nodal officer monthly.

**(x) Budget**

**Table 6.10 Budget Details of Distribution of Production Subsidy for Certified Seeds in Groundnut**

Sl. No	Year of implementation	Physical (Qtl)	Finance (Rs.in Lakhs)
1	2008-09	1030	20.60
2	2009-10	1095	21.90
3	2010-11	1160	23.20
4	2011-12	1225	24.50
	<b>Total</b>	<b>4510</b>	<b>90.20</b>

**6.1.11 Distribution of Distribution Subsidy for Certified Seeds @ Rs.10/Kg.****(i) Back ground / Problem Focus**

In Thiruvarur District about 3000 Ha. are under Groundnut cultivation which contributes to a small portion in gross cropped area. To increase the area and production of the Groundnut crop, distribution subsidy has to be given for certified seeds @ Rs.10/Kg.

**(ii) Project Rationale**

To Increase the area under Goundnut cultivation, distribution subsidy has to be given for certified seeds @ Rs.10/Kg.

**(iii) Project Strategy**

Awareness campaign has to be conducted among the farmers to switch over to Groundnut cultivation.

**(iv) Project Goals**

By giving production subsidy for certified seeds, more area will be brought under Groundnut cultivation.

**(v) Project Components**

Distribution of distribution subsidy for certified seeds @ Rs.10/Kg.

**(vi) Project Cost and Financing**

Distribution subsidy has to be given for certified seeds @ Rs.10/Kg.

**(vii) Implementation of the Project**

Conducting awareness campaigns at village level



Identification of farmers.



Distribution of distribution subsidy for certified seeds @ Rs.10/Kg.

**(viii) Reporting**

The progress reports have to be submitted to the nodal officers monthly.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha. in Thiruvarur District which contributes to a small portion in gross cropped area. To increase the area under Groundnut, distribution subsidy has to be given for certified seeds @ Rs.10/Kg. The progress has to be reported to the nodal officer monthly.

**(x) Budget****Table 6.11 Budget Details of Distribution of Distribution Subsidy for Certified Seeds**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Qtl)</b>	<b>Finance (Rs.in Lakhs)</b>
1	2008-09	2110	21.10
2	2009-10	2215	22.15
3	2010-11	1320	13.20
4	2011-12	2475	24.25
	<b>Total</b>	<b>8070</b>	<b>80.70</b>

**6.1.12 Distribution of Gypsum @ Rs.50 per cent Subsidy****(i) Back ground / Problem Focus**

In Thiruvarur District about 3000 Ha. are under Groundnut cultivation which contributes a small portion in gross cropped area. To get higher productively, distribution of gypsum has to be given at 50 per cent subsidy to the farmers.

**(ii) Project Rationale**

To increase the productivity of Groundnut, gypsum has to be distributed @ 50 per cent subsidy.

**(iii) Project Strategy**

Awareness campaign has to be conducted among the farmers for the adoption of Gypsum application.

**(iv) Project Goals**

By giving subsidy for Gypsum application, productivity will be increased.

**(v) Project Component**

Distribution of Gypsum @ 50 per cent subsidy.

**(vi) Project Cost and Financing**

50 per cent subsidy has to be given for Gypsum application.

**(vii) Implementation of the Project**

Conducting awareness campaigns at village level



Identification of farmers.



Supply of Gypsum @ 50 per cent subsidy.

**(viii) Reporting**

The progress reports have to be submitted to the nodal officers monthly.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha. in Thiruvarur District. To increase the productivity, Gypsum has to be supplied at 50 per cent subsidy. The progress has to be reported to the nodal officer monthly.

**(x) Budget**

**Table 6.12 Budget Details of Distribution of Gypsum**

Sl. No	Year of implementation	Physical (Qtl)	Finance (Rs.in Lakhs)
1	2008-09	1600	12.48
2	2009-10	2300	17.94
3	2010-11	1700	13.26
4	2011-12	1850	14.43
	<b>Total</b>	<b>7450</b>	<b>58.11</b>

**6.1.13 Distribution of Groundnut Micro Nutrient Mixture at 50per cent Subsidy****(i) Back ground / Problem Focus**

In Thiruvarur District Groundnut is cultivated in 2 blocks is about 3000 Ha. which accounts for a small portion in gross cropped area. Since the soil is deficit in micro nutrients, micro nutrient mixture has to be distributed at 50 per cent subsidy to get higher yield.

**(ii) Project Rationale**

To Increase the productivity of Groundnut, distribution of micro nutrient mixture has to be given to the farmers at 50 per cent subsidy.

**(iii) Project Strategy**

Micro Nutrient deficiency has to be eliminated in groundnut crop through distribution of micro nutrient at 50 per cent subsidy to farmers.

**(iv) Project Goals**

Distribution of micro nutrient mixture to farmers at 50 per cent subsidy results in elimination of micro nutrient deficiency which results in higher productivity.

**(v) Project Component**

Distribution of micro nutrient mixture at 50 per cent subsidy.

**(vi) Project Cost and Financing**

Supply of micro nutrient mixture at 50 per cent subsidy to Groundnut growers.

**(vii) Implementation of the Project**

Identification of farmer affected by micro nutrient deficiency



Supply of micro nutrient mixture at 50 per cent subsidy.



Adoption of INM.

**(viii) Reporting**

The progress reports have to be submitted to the nodal officers monthly.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha. in Thiruvarur District. To overcome the micro nutrient deficiency, mn mixture has to be distributed among the Groundnut growers at 50 per cent subsidy. The progress has to be reported to the nodal officer monthly.

**(x) Budget****Table 6.13 Budget details of Distribution of Groundnut Micro Nutrient Mixture**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Ha)</b>	<b>Finance (Rs.)</b>
1	2008-09	800	3.752
2	2009-10	750	3.518
3	2010-11	800	3.752
4	2011-12	850	3.986
	<b>Total</b>	<b>3200</b>	<b>15.008</b>

**6.1.14 Distribution of Seed Treatment Chemicals and Bioagents at 50 Per cent Subsidy****(i) Background / Problem Focus**

In Thiruvarur District, Groundnut is cultivated in about 3000 Ha. In 2 blocks. To increase the productivity of Groundnut, seed treatment chemicals should be supplied at subsidized rate.

**(ii) Project Rationale**

In order to increase the productivity of groundnut, seed treatment chemicals should be supplied at 50 per cent subsidy.

**(iii) Product Strategy**

Awareness campaign should be conducted at field level about the importance of seed treatment chemicals and the knowledge of the farmers should be enlightened through demonstrations.

**(iv) Project Goals**

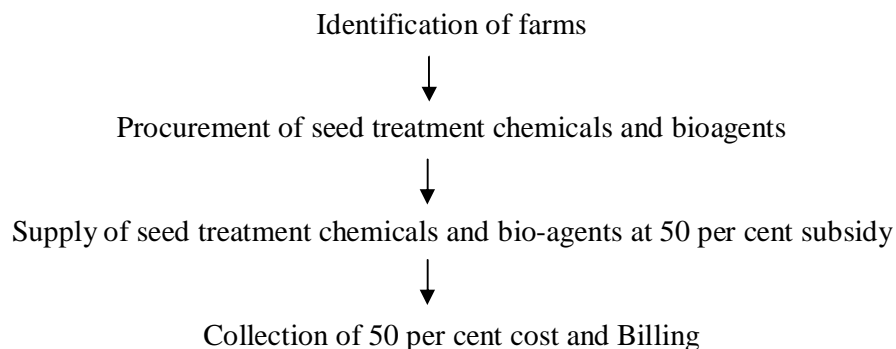
By the distribution of seed treatment chemicals at subsidized rate, the productivity can be increased

**(v) Project Component**

Distribution of seed treatment chemicals at 50 per cent subsidy.

**(vi) Project Cost and Financing**

Seed treatment chemicals and bio-agents will be supplied at 50 per cent subsidy.

**(vii) Implementation of the Project****(viii) Reporting**

Monthly Progress report will be submitted to the Nodal Officer.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha. in Thiruvarur District. To increase the productivity of Groundnut, Seed Treatment chemicals should be supplied at 50 per cent subsidy. The monthly progress report should be submitted monthly to this Nodal Officer.

**(x) Budget**

**Table 6.14 Budget Details of Distribution of Seed Treatment Chemicals and Bioagents**

Sl. No	Year of implementation	Physical (Ha)	Finance (Rs.)
1	2008-09	700	0.525
2.	2009-10	750	0.563
3	2010-11	800	0.600
4	2011-12	850	0.637
	<b>Total</b>	<b>3100</b>	<b>2.325</b>

### **6.1.15 Farmers Field School**

#### **(i) Background / Problem Focus**

In Thiruvarur District Groundnut is cultivated in about 3000 Ha. in 2 blocks. To overcome the pest problem, farmer's field schools should be conducted to enlighten the knowledge on IPM technology.

#### **(ii) Project Rationale**

In order to increase the productivity of groundnut, farmers field schools should be conducted.

#### **(iii) Project Strategy**

Farmers Field School should be conducted at village level for 14 weeks to enlighten the knowledge on IPM Technology

#### **(iv) Project Goals**

By conducting farmers field schools, the knowledge of farmers have been enlightened on IPM technology, which results in good result in pest management.

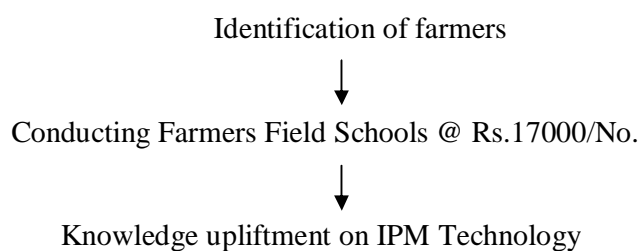
#### **(v) Project Cost and Financing**

Farmer's field schools should be conducted at the field level for 14 weeks @ Rs.17000/no.

#### **(vi) Project Component**

Conducting farmers field Schools @ Rs.17000/No.

#### **(vii) Implementation of the Project**





**(viii) Reporting**

Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

Groundnut is cultivated in about 3000 Ha. in Thiruvarur District. To overcome the pest problem, the awareness on IPM Technology should be created through conducting Farmers Field School at field level @ Rs.17000/No. The progress should be submitted to the Nodal Officer on monthly basis.

**(x) Budget**

**Table 6.15 Budget Details of Farmers Field School**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	5	1.1
2.	2009-10	5	1.1
3	2010-11	5	1.1
4	2011-12	3	0.66
	<b>Total</b>	<b>18</b>	<b>3.96</b>

**6.1.16 Strengthening of Market Infrastructure/Setting up of Godowns****(i) Background / Problem Focused**

In Thiruvarur District about 1.45 lakhs ha. are under the cultivation of Paddy, Pulses, Groundnut, Cotton, Sugarcane etc., which yields 28.34 lakhs MT of Paddy, 0.20 Lakhs tones of Pulses, 0.01 Lakh tones Cotton, 0.033 Lakh tonnes of Groundnut and 0.0032 tones of Sugarcane. Farmers are getting lower income because of selling the produce immediately after the harvest. In order to overcome this problem, setting up of go downs at the rate of Rs.10 Lakhs per go- down to be implemented.

**(ii) Project Rationale**

To overcome this problem of fetching lower price godown should be set up in all blocks.

**(iii) Project Strategy**

Suitable places to be identified in each and every block for the construction of godown to storage farm produce which results in higher income during lean season.

**(iv) Project Goals**

To get better price for the farm produces, godown should be constructed in each and every block, which in turn results in higher income of the farmers.

**(v) Project Component**

Construction of go- down in each and every block at the rate of Rs.10 Lakhs

**(vi) Project Cost and Financing**

Construction of go - down at Rs.10 lakhs will be met from the NADP fund

**(vii) Implementation of the Project**

Identification of suitable places



Construction of godowns

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In order to get better price for the farm produces, godowns should be constructed in each and every block at the rate of Rs.10 Lakhs/No. This will reduce the market rate which in turn results in higher income of the farmers. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget****Table 6.16 Budget details of Strengthening of Market Infrastructure/Setting up of Godowns**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Nos)</b>	<b>Finance (Rs.in Lakhs)</b>
1	2008-09	12	120
2.	2009-10	12	120
3	2010-11	1	10
4	2011-12	2	20
	Total	27	270

**6.1.17 Establishment of Coconut Nurseries in 2 acres of Land in State Seed Farms****(i) Background / Problem Focus**

In Thiruvarur District about 2421 Ha. of land is under Coconut cultivation.. since there is no coconut nursery in Thiruvarur District, to increase the area under Coconut and its productivity, establishment of Coconut nursery in State Seed Farms has to be done.

**(ii) Project Rationale**

In order to increase the area under Coconut and its productivity, Coconut nursery should be established in 5 State Seed Farms of Thiruvarur District.

**(iii) Project Strategy**

The Coconut nursery should be established in 5 State Seed Farms and training should be given to all 5 State Seed Farm managers in maintenance of Coconut nursery.

**(iv) Project Goals**

By establishing Coconut nursery in State Seed Farms, more area will be brought under Coconut.

**(v) Project Component**

Establishing Coconut nursery in State Seed Farms @ Rs.5 lakh/unit.

**(vi) Project Cost and Financing**

Coconut nurseries are to be established in State Seed farms @ Rs. 5 lakh/Unit.

**(vii) Implementation of the Project**

Training to State Seed farms Agrl.Officers on Coconut nursery maintenance



Establishment of Coconut nursery @ Rs. 5 Lakhs/unit

**(viii) Reporting**

Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District, about 2421 Ha. is under Coconut. To increase the area under Coconut and to increase the productivity, establishment of Coconut nursery in State Seed farms has to be done @ Rs.5 lakhs/unit. The progress should be submitted to Nodal Officer on monthly basis.

**(x) Budget**

**Table 6.17 Budget Details of Establishment of Coconut Nurseries in 2 acres of Land in State Seed Farms**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	3	15.0
2.	2009-10	1	5.0
3	2010-11	-	-
4	2011-12	-	-
	<b>Total</b>	<b>4</b>	<b>20.0</b>

### **6.1.18 Distribution of Combined Harvester Machines at 75 per cent Subsidy**

#### **(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh ha. are under Paddy cultivation in four seasons viz., summer, Kuruvai, Samba and Thaladi followed by Rice fallow pulses. Nowadays, the major problems in Paddy cultivation is lack of labourers, since most of the labourers have migrated to cities. During this year many of the agriculturists depended on the combined harvester machines on hire basis from private people at higher rate. So to increase the area and productivity of the paddy crop, it is a must to distribute combine paddy harvester at 75 per cent subsidy.

#### **(ii) Project Rationale**

Distribution of Combined harvester at 75 per cent subsidy will help the farmers to reduce the labour shortage and labour cost.

#### **(iii) Project Strategy**

Farmers should be trained at village level for better utilization of combined harvester and also to maintain the harvest machines. This will be very much helpful for the farmers for the replacement of manual labour which results in reduced capital investment in paddy cultivation.

#### **(iv) Project Goals**

Distribution of Combined harvester will help the farmers to overcome the labour shortage and to reduce the labour cost which results in higher output for the farmers.

#### **(v) Project Component**

Distribution of Combined harvest machines at 75 per cent subsidy.

#### **(vi) Project Cost and Financing**

Combined harvest machines distributed to each block at 75 per cent subsidy will help the farmers to overcome labour shortage.

**(vii) Implementation of the Project**

Imparting training to farmers about maintenance of combined harvester machines



Distribution of Combined harvester machines at 75 per cent subsidy



Overcoming labour shortage

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvavarur District, about 1.45 lakh ha. are covered with paddy during summer, kuruvai, Samba and Thaladi seasons depending upon 1.0 lakh agricultural labourers. Nowadays, the agricultural labours have migrated to industrial area which resulted in labour shortage and higher capital investment in paddy cultivation. To overcome this, combined harvester and rice transplanter should be supplied at 75 per cent subsidy. The progress should be submitted to the Nodal Officer on monthly basis.

**(x) Budget**

**Table 6.18 Budget details of Distribution of Combined Harvester Machines at 75 per cent Subsidy**

S.No	Year of implementation	Physical (Ha)	Full Cost (L.Rs.)	Subsidy (L.Rs.)
1	2008-09	40	800.0	600.0
2.	2009-10	45	900.00	675.0
3	2010-11	41	820.0	615.0
4	2011-12	41	820.0	615.0
	<b>Total</b>	<b>167</b>	<b>3340.0</b>	<b>2505.0</b>

**6.1.19 Distribution of Rice Transplanter at 75 per cent Subsidy****(i) Background / Problem Focus**

In Thiruvavarur District about 1.45 lakh Ha. are cultivated with Paddy in four seasons viz., summer, samba and Thaladi Nowadays, the major problem in Paddy

cultivation is lack of labourers during peak period since many out of one lakh agricultural labourers have shifted to other industrial districts. Because of labour shortage, many farmers are depending on field transplanters from private people at higher hire rate. To overcome this problem, Rice transplanters have to be supplied at 75 per cent subsidy.

**(ii) Project Rationale**

Distribution of Rice transplanter at 75 per cent subsidy will reduce the labour shortage and labours cost.

**(iv) Project Strategy**

Farmers should be trained at village level for the better utilization of Rice transplanter machines and to maintain Rice Transplanter. This will be very much helpful for the farmers for the replacement of manual labour which results in reduced capital investment in paddy cultivation.

**(v) Project Goals**

Distribution of Rice transplanter will help the farmers to overcome the labour shortage and to reduce the labours cost which results in higher output for the farmers.

**(vi) Project Component**

Distribution of Rice transplanter at 75 per cent subsidy.

**(vii) Project Cost and Financing**

Rice planter will be distributed to each block at 75 per cent subsidy which will help the farmers to overcome labour shortage.

**(vii) Implementation of the Project**

Imparting training to farmers about maintenance of Rice Transplanter



Distribution of Rice Transplanter at 75 per cent subsidy



Overcoming labour shortage

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District about 1.45 lakh Ha is covered with paddy during summer, kuruvai, Samba and Thaladi sesame, depending upon nearly one lakh agricultural labourers. Nowadays the Agricultural Labours have shifted to other industrial districts which resulted in labour shortage and higher capital investment in paddy cultivation. To overcome this, Rice transplanter should be supplied at 75 per cent subsidy. The progress of the project should be submitted to the Nodal Officer.

**(x) Budget**

**Table 6.19 Budget Details of Distribution of Rice Transplanter at 75 per cent Subsidy**

S.No	Year of implementation	Physical (No.)	Full Cost (Rs.in Lakhs)	Subsidy (Rs.in Lakhs)
1	2008-09	30	60.0	45.0
2.	2009-10	30	60.0	45.0
3	2010-11	33	66.0	49.5
4	2011-12	35	70.0	52.5
	<b>Total</b>	<b>128</b>	<b>256.0</b>	<b>192.0</b>

**6.1.20 Imparting Training to Farmers for the Maintenance of Machines @ Rs.10000/Training/3 days**

**(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh Ha. are covered under Paddy crop. Nowadays due to labour shortage & migration of manual labours to other districts has resulted in compulsory usage of machineries in crop cultivation which results in use of more number of machineries. To maintain he machineries training should be given to farmers.

**(ii) Project Rationale**

To maintain the machineries, training should be given to the farmers.



**(iii) Project Goals**

Awareness campaign should be conducted at village level. Identification of interested farmers should be done. Training should be given.

**(iv) Project Strategy**

Distribution of Rice transplanter will help the farmers to overcome the labour shortage and to reduce the labours cost which results in higher output for the farmers.

**(v) Project Component**

Imparting training to farmers for the maintenance of machineries @ Rs.10000/Training/3 days.

**(vi) Project Cost and Financing**

For imparting training on maintenance of machines to farmers @ Rs.10000/Training/3 days should be given from NADP Fund.

**(vii) Implementation of the Project**

Conducting of Awareness Campaign



Identification of farmers



Conduction of Training

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District about 1.45 lakh Ha. are covered with Paddy crop which needs use of machineries due to labour shortage. For the better utilization and maintenance of machineries training should be given to the farmers @ Rs.10000/Training/3 days. The progress of the project should be submitted to the Nodal Officer.

**(x) Budget****Table 6.20 Budget details of Imparting Training to Farmers for the Maintenance of Machines**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Nos)</b>	<b>Finance (Rs.)</b>
1	2008-09	15	1.5
2.	2009-10	15	1.5
3	2010-11	15	1.5
4	2011-12	15	1.5
	<b>Total</b>	<b>60</b>	<b>6.0</b>

**6.1.21 Distribution of Ridge furrow at 75 per cent Subsidy****(i) Background / Problem Focus**

In Thiruvarur district cotton is cultivated in five blocks in about 1221 ha. which accounts for a small portion to the gross cropped area of 145000 ha. To increase the production and productivity of cotton crop ridge formers has to be distributed to all farmers.

**(ii) Project Rationale**

To overcome the labour shortage in cotton crop, ridge furrow has to be distributed to all farmers.

**(iii) Project Strategy**

Farmers should be trained at village level for the better utilization of ridge furrow. This will help the farmers to replacement of manual labour which will result in reduced capital investment in cotton cultivation.

**(iv) Project Goals**

Distribution of ridge furrow will help the farmers to overcome the labour shortage and twill reduce the labour cost which will result in higher output of the farmers.

**(v) Project Component**

Distribution of ridge furrow at 75 per cent subsidy.

**(vi) Project Cost and Financing**

Ridge furrow will be distributed to each block at 75 per cent subsidy.

**(vii) Implementation of the Project**

Imparting training to farmers' about maintenance of Ridge farmer



Distribution of ridge furrow at 75 per cent subsidy.



Overcoming labour shortage

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur district about 1221 ha of cotton is cultivated. Nowadays agricultural labourers have shifted to other industrial districts which results in labour shortage and higher capital investment. To overcome this ridger should be supplied at 75 per cent subsidy and the progress of the project should be submitted to the Nodal Officer.

**(x) Budget**

**Table 6.21 Budget details of Distribution of Ridger at 75 per cent Subsidy**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Nos)</b>	<b>Finance (Rs.in Lakhs)</b>
1	2008-09	10	0.75
2.	2009-10	10	0.75
3	2010-11	12	0.90
4	2011-12	12	0.90
	<b>Total</b>	<b>44</b>	<b>3.30</b>

### **6.1.22 Distribution of Mechanical Conoweeder at 75 per cent subsidy**

#### **(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy . In order to get higher production SRI technique is now practiced by all farmers. To bring more area under SRI mechanical conoweeder should be supplied at 75 per cent.

#### **(ii) Project Rationale**

Distribution of mechanical conoweeder at 75 per cent. Subsidy to achieve 10 tanners /ha.

#### **(iii) Project Strategy**

Farmers should be trained at village level for better utilisaton of mechanical cocoweeder. This will help the farmers to replacement the manual labour which will result in reduced capital investment in cotton cultivation.

#### **(iv)Project goals**

Distribution of mechanical conoweeder at 75 per cent Subsidy.

#### **(v) Project Cost and Financing**

Mechanical cocoweeder will be distribution at 75 per cent. subsidy which will help the farmers to overcome the labour shortage.

#### **(vi) Implementation of the Project**

Imparting training to farmers' about maintenance of Mechanical conoweeder



Distribution Mechanical cocoweeder at 75 per cent subsidy.



Overcoming labour shortage

#### **(vii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(viii) Abstract**

In Thiruvarur district 1.45 lakh ha is covered with paddy to overcome labour shortage Mechanical cocoweeder will be supplied to the farmers.

**(x) Budget**

**Table 22. Budget Details of Distribution of Mechanical Conoweeder at 75 per cent Subsidy**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	100	7.50
2.	2009-10	125	9.37
3	2010-11	150	11.25
4	2011-12	175	13.12
	<b>Total</b>	<b>550</b>	<b>41.25</b>

**6.1.23 Distribution of Drum Seeder at 75 per cent Subsidy****(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy . In order to get higher production drum seedling is now practiced by all farmers. To bring more area under drum seedling, drum seeder should be supplied at 75 per cent.

**(ii) Project Rationale**

Distribution of drum seeder at 75 per cent. subsidy to achieve 10 tonnes /ha.

**(iii) Project Strategy**

Farmers should be trained at village level for better utilisaton of drum seeder. This will help the farmers to replacement the manual labour.

**(iv) Project Goals**

Distribution of drum seeder will help the farmers to overcome the labour shortage which results in higher output for the farmer.

**(v) Project Component**

Distribution of drum seeder at 75 per cent subsidy.

**(vi) Project Cost and Financing**

Drum seeder will be distributed at 75 per cent subsidy which will help the farmers to overcome the labour shortage.

**(vii) Implementation of the Project**

Imparting training to farmers' about maintenance of Mechanical cocoweeder



Distribution drum seeder at 75 per cent subsidy.



Overcoming labour shortage

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur district 1.45 lakh ha is covered with paddy. To overcome labour shortage drum seeder will be supplied to the farmers.

**(x) Budget**

**Table 6.23 Budget Details of Distribution of Drum Seeder at 75 per cent Subsidy**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	10	0.375
2.	2009-10	125	4.687
3	2010-11	150	5.625
4	2011-12	175	6.562
	<b>Total</b>	<b>460</b>	<b>17.250</b>

### **6.1.24 Distribution of SRI Marker at 75 per cent Subsidy**

#### **(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy . In order to get higher production SRI technique is now practiced by all farmers. To bring more area under SRI, SRI Marker should be supplied at 75 per cent.

#### **(ii) Project Rationale**

Distribution SRI Marker at 75 per cent., subsidy to achieve 10 tonnes /ha.

#### **(iii) Project Strategy**

Farmers should be trained at village level for better utilisation of SRI Marker. This will help the farmers to replace the manual labour which will result in reduced capital investment in cotton cultivation.

#### **(iv) Project Goals**

Distribution of SRI Marker at 75 per cent subsidy.

#### **(v) Project Cost and Financing**

SRI Marker will be distributed at 75 per cent subsidy which will help the farmers to overcome the labour shortage.

#### **(vi) Implementation of the Project**

Imparting training to farmers' about maintenance of SRI Marker



Distribution SRI Marker at 75 per cent subsidy



Overcoming labour shortage

#### **(vii) Reporting**

The Monthly progress reports should be submitted to the Nodal officer.

**(viii) Abstract**

In Thiruvarur district 1.45 lakh ha is covered with paddy to overcome labour shortage SRI Marker will be supplied to the farmers.

**(ix) Budget****Table 2.24 Budget details of Distribution of SRI Marker at 75 per cent Subsidy**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	100	7.500
2.	2009-10	125	9.375
3	2010-11	150	11.250
4	2011-12	175	13.125
	<b>Total</b>	<b>550</b>	<b>41.250</b>

**6.1.25 Recharging of ground water table using old bore wells****(i) Background / Problem Focus**

In Thiruvarur District because of sea water intrusion the ground water get spoilt and it is of more EC content. To make the ground water table suitable for irrigation purposes the ground water table should recharged using old wells.

**(ii) Project Rationale**

Increasing ground water table using bore wells at Rs 5000/ha.

**(iii) Project Strategy**

Awareness should be created among the farmers for the necessity of recharging ground water table.

**(iv) Project Goals**

Recharging ground water table using old bore wells.

**(v) Project Components**

Recharging of ground water table using old bore wells.



**(vi) Project Cost and Financing**

Recharging of ground water table using old bore wells will create more water resources in Thiruvarur district.

**(vii) Implementation of the Project**

Creating awareness among the farmers



Recharging ground table

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal officer.

**(ix) Abstract**

In Thiruvarur district to increase the ground water table of old bore wells, the ground water table should be recharged.

**(x) Budget**

**Table 6.25 Budget details of Recharging of Ground water table using old Bore wells**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in lakhs)
1	2008-09	100	5.00
2.	2009-10	125	6.25
3	2010-11	150	7.50
4	2011-12	175	8.75
	<b>Total</b>	<b>550</b>	<b>27.50</b>

**6.1.26 Recharging of Ground water Table using New Borewells****(i) Background / Problem Focus**

In Thiruvarur District because of sea water intrusion the ground water gets spoilt and it is of more EC content. To make the ground water table suitable for irrigation purposes the ground water table should recharged using new wells.

**(ii) Project Rationale**

Increasing ground water table using bore new wells at Rs 5000/ha.

**(iii) Project Strategy**

Awareness should be created among the farmers for the necessity of recharging ground water table.

**(iv) Project Goals**

Recharging ground water table using new bore wells.

**(v) Project Components**

Recharging of ground water table using new bore wells.

**(vi) Project Cost and Financing**

Recharging of ground water table using new bore wells will create in water resources in thiruvarur district.

**(vii) Implementation of the Project**

Creating awerness among the farmers



Recharging ground table

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur district to increase the ground water table of new bore wells, the ground water table should be recharged.

**(x) Budget****Table 6.26 Budget details of Recharging of ground water table using new borewells**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Nos)</b>	<b>Finance (Rs.in Lakhs)</b>
1	2008-09	100	10.0
2.	2009-10	125	12.5
3	2010-11	150	15.0
4	2011-12	175	17.5
	<b>Total</b>	<b>550</b>	<b>55.0</b>

**6.1.27 Distribution of Storage pest Monitor at 75 per cent Subsidy****(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy . 3-10 per cent of produces are affected by storage pests. To overcome this problem storage pest monitor should be supplied to the farmer at 75 per cent susidy.

**(ii) Project Rationale**

Control of storage pest by distributing storage pest monitor at 75 per cent subsidy.

**(iii) Project Strategy**

Creating awerness among the farmers about the usage of storage pest monitor.

**(iv) Project Goals**

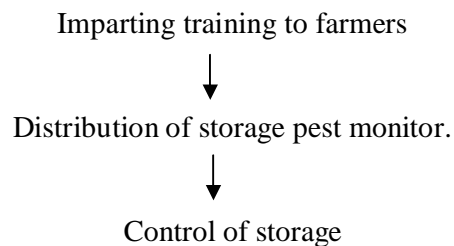
Control of storage pest by distributing storage pest monitor at 75 per cent subsidy.

**(v) Project Component**

Distribution of storage pest monitor at 75 per cent subsidy.

**(vi) Project Cost and Financing**

Storage pest monitor will be distributed at 75 per cent subsidy.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy 3-10 per cent of produces are affected by storage pests. To overcome this problem storage pest monitor should be supplied to the farmer at 75 per cent susidy.

**(x) Budget**

**Table 6.27 Budget Details of Distribution of Storage Pest Monitor at 75 per cent Subsidy**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	100	2.02500
2.	2009-10	125	2.53125
3	2010-11	150	3.03750
4	2011-12	175	3.54375
	<b>Total</b>	<b>550</b>	<b>11.13750</b>

**6.1.28 Distribution of Hand Sprayer at 50 per cent Subsidy****(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy. To overcome the damages, hand sprayer should be supplied to the farmers at 50 per cent subsidy.

**(ii) Project Rationale**

To get higher production pest should be controlled using hand sprayer.

**(iii) Project Strategy**

Farmers should be trained at village level for better utilization of hand sprayer.

**(iv) Project Goals**

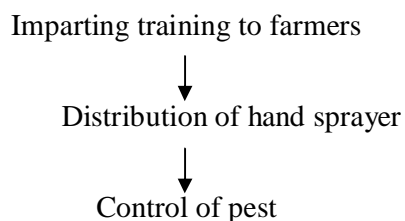
Control of pests using hand operated sprayer.

**(v) Project Component**

Distribution of hand sprayer at 50 per cent subsidy.

**(vi) Project Cost and Financing**

Hand operated sprayers are to be distribution at 50 per cent subsidy.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District about 1.45 lakh ha. are cultivated with paddy . To overcome the damages, hand sprayer should be supplied to the farmers at 50 per cent subsidy.

**(x) Budget****Table 6.28 Budget Details of Distribution of Hand Sprayer at 50 per cent Subsidy**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	300	2.4
2.	2009-10	300	2.4
3	2010-11	-	-
4	2011-12	-	-
	<b>Total</b>	<b>600</b>	<b>4.8</b>

## **6. Restoring Soil Health**

### **6.1.29 Organising Micro Nutrient Demonstration in Paddy**

#### **(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh Ha. are cultivated covering nearly about 2.00 lakh farmers. In order to have full adoption of INM, all farmers need to be provided with soil health cards.

#### **(ii) Project Rationale**

In order to have cent percent adoption of INM technology. All farmers should be provided with soil health cards.

#### **(iii) Project Strategy**

Awareness campaign should be conducted at village level. Soil samples should be collected and analysed. Soil health cards should be issued.

#### **(iv) Project Goals**

In order to have soil health cards for all farmers, to have better adoption of INM practice, all farmers should be provided with soil health cards @ Rs.10/Card.

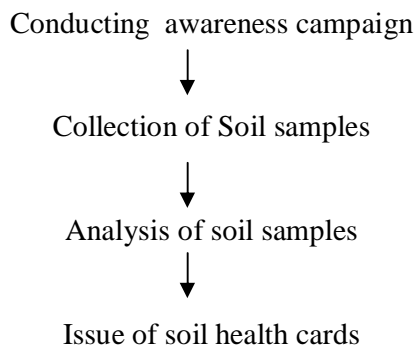
#### **(v) Project Cost and Financing**

Collection of soil samples and analysis of soil samples. Issue of soil health cards to all farmers @ Rs.10/Card.

#### **(vi) Project Component**

Distribution of Soil health card @ Rs. 10/Card.

#### **(vii) Implementation of the Project**



**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer monthly.

**(ix) Abstract**

In order to have full adoption of INM technology, all farmers should be provided with Soil health cards @ Rs.10/card. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget****Table 6.29 Budget details of Organising Micro Nutrient Demonstration in Paddy**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	360	3.6
2.	2009-10	700	7.0
3	2010-11	592	5.92
4	2011-12	592	5.92
	<b>Total</b>	<b>2244</b>	<b>22.44</b>

**6.1.30 Human Resources Development****(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh farmers are cultivating about 1.45 lakh Ha. In order to issue soil health cards to all farmers human resources should be developed for the collection of soil samples.

**(ii) Project Rationale**

In order to have cent percent adoption of INM technology, all farmers should be provided with soil health cards for the collection of soil samples, Human resources should be developed for undertaking the task.

**(iii) Project Strategy**

Identification of progressive farmers' interest group members for the collection of soil samples.

**(iv) Project Goals**

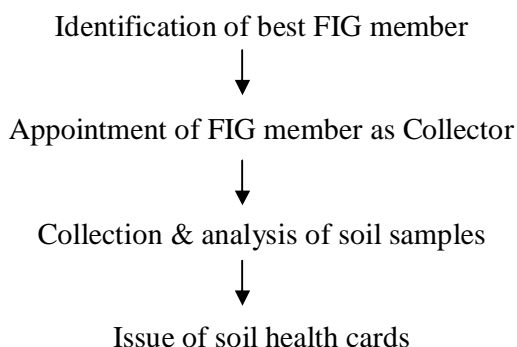
Because of issue of soil health cards to all farmers, cent percent adoption of INM technology can be assured.

**(v) Project Component**

Appointing FIG member for Soil sample collection @ Rs.500/month as allowance.

**(vi) Project Cost and Financing**

For the collection of soil samples, human resources should be developed @ Rs.500/month as allowance.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In order to issue soil health cards to all farmers, human resources should be developed @ Rs.500/month as allowance. The progress made should be submitted to the Nodal Officer monthly.



**(x) Budget****Table 6.30 Budget Details of Human Resources Development**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Nos)</b>	<b>Finance (Rs.)</b>
1	2008-09	6	0.72
2.	2009-10	-	-
3	2010-11	-	-
4	2011-12	1	0.12
	Total	<b>7</b>	<b>0.84</b>

**6.1.31 Issue of Soil Health Cards to Farmers****(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakh Ha. are cultivated lands which needs soil to be tested with the available single number of mobile soil testing lab. In order to enhance the full adoptability of INM soil health cards should be issued.

**(ii) Project Rationale**

Issue of soil health cards to increase the adoption of INM among farmers.

**(iii) Project Strategy**

Awareness campaign should be conducted at village level for full adoptability Soil health cards.

**(iv) Project Goals**

By issuing soil health cards, adoption of INM among farmers will be increased.

**(v) Project Component**

Issue of soil health cards.

**(vi) Project Cost and Financing**

Distribution of Soil health card @ Rs. 10/Card.

**(vii) Implementation of the Project**

Creation of awareness among farmers about soil testing



Setting up of MSTL



Collection and analysis of samples



Issue of soil health cards

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In order to have full adoption of INM technology, all farmers should be provided with Soil health cards @ Rs.10/card. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.31 Budget Details of Issue of Soil Health Cards To farmers**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	5450	0.545
2	2009-10	11000	1.10
3	2010-11	7900	0.79
4	2011-12	9000	0.90
	<b>Total</b>	<b>33350</b>	<b>3.335</b>

**6.1.32 Farm Equipment-Supply of Power Tiller One/SSF @ Rs.1.00 Lakh****(i) Background / Problem Focus**

In Thiruvavarur District 7 State Seed Farms are there out of which 5 Nos. are having own lands in which about 780 acres are cultivable lands. Because of higher wages, nowadays mechanization has to be done to get higher output. In order to get higher income, power tiller should be supplied to each & every State Seed Farm @ Rs.1 lakh/machine.

**(ii) Project Rationale**

Power tillers should be supplied to each & every State Seed Farm to get higher output.

**(iii) Project Strategy**

Training should be given for the better utilization of power tillers.

**(iv) Project Goals**

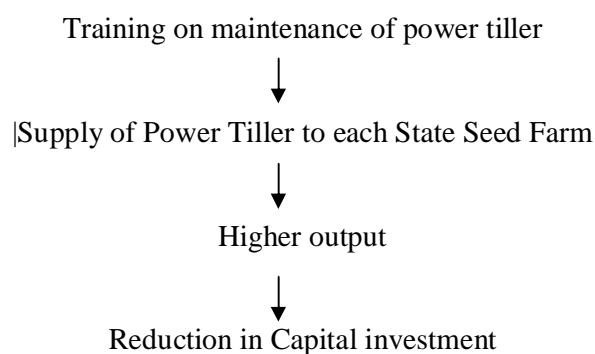
By supplying power tillers to every State Seed Farm higher output will be obtained.

**(v) Project Component**

Supply of power tiller @ Rs.1.00 lakh/No to each State Seed Farm.

**(vi) Project Cost and Financing**

Power tiller should be supplied to each & every State Seed Farm @ Rs.1.00 /tiller/farm.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In order to reduce the labour cost and to get higher output, power tiller should be supplied to each State Seed Farm @ Rs.1 lakh/No. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget****Table 6.32 Budget details of Farm equipment-Supply of Power Tiller One/SSF**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	9	9.0
2.	2009-10	1	1.0
3	2010-11	-	-
4	2011-12	-	-
	<b>Total</b>	<b>10</b>	<b>10.0</b>

**6.1.33 Digging Farm Ponds @ Rs.100000/No****(i) Background / Problem Focus**

In Thiruvarur District, 7 State farms are there, out of which 5 nos are having own lands which have cultivable area of about 780 acre. Since most of the Blocks are classified under critical and semi critical areas, to have better conservation of rain water & water recharging, digging of farm ponds is a must which could be done @ Rs.100000/No.

**(ii) Project Rationale**

To have better utilization of rain water & better water recharging, digging farm ponds is a must which could be done @ Rs.100000/No.

**(iii) Project Strategy**

Estimate should be obtained for the Agricultural. Engineering Department & digging of farm ponds should be done @ Rs.100000/No.

**(iv) Project Goals**

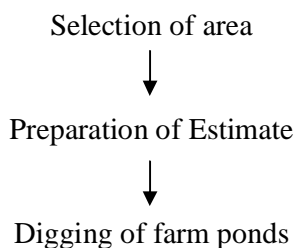
By digging farm ponds, water recharging & better utilization of rain water can be ensured.

**(v) Project Component**

Digging of farm pond @ Rs.100000/No. in each State Seed Farm.

**(vi) Project Cost and Financing**

To have better utilization of rain water and water harvesting, farm ponds should be dug @ Rs.100000/No. in each State Seed Farm.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer

**(ix) Abstract**

To have better utilization of rain water and water harvesting, farm ponds should be dug @ Rs.100000/Ha. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.33 Budget details of Digging Farm Ponds**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	3	3.0
2.	2009-10	5	5.0
3	2010-11	-	-
4	2011-12	-	-
	<b>Total</b>	<b>8</b>	<b>8.0</b>

### **6.1.34 Fencing of State Seed Farms**

#### **(i) Background / Problem Focus**

For the production and supply of more seeds to the farmers, state seed farms should be get fenced.

#### **(ii) Project Rationale**

To get higher seed production in state seed farms, all seed farms should be fenced.

#### **(iii) Project Strategy**

To get higher seed production in state seed farms, should be fenced.

#### **(iv) Project Goals**

Fencing of sstate seed farms to increase seed production.

#### **(v) Project Component**

Fencing of sstate seed farms.

#### **(vi) Project Cost and Financing**

All state seed farms should be financed.

#### **(vii) Implementation of the Project**

Fencing of state seed farms



Higher seeds production

#### **(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

#### **(ix) Abstract**

In Thiruvarur District, 7 state seed farms are there to meet out the demand of seeds. All state seeds farms should be get fenced.

**(x) Budget****Table 6.34 Budget Details of Fencing of State Seed Farms**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Km)</b>	<b>Finance (Rs.in Lakhs)</b>
1	2008-09	9	18.0
2.	2009-10	7	14.0
3	2010-11	7	14.0
4	2011-12	4	8.0
	<b>Total</b>	<b>27</b>	<b>54.0</b>

**6.1.35 Supply of 10 HP Oil Engine to State Seed Farm****(i) Background / Problem Focus**

In Thiruvarur District, 7 state seed farms are there. To meet the water problem 10 HP oil engine to be supplied at 100 per cent subsidy.

**(ii) Project Rationale**

To get higher production in state seed farms 10 HP oil engine are to be supplied.

**(iii) Project Strategy**

10 HP oil engine to be supplied to all state seed farms.

**(iv) Project Goals**

To get higher production in state seed farms oil engine are to be supplied.

**(v) Project Component**

Supply of oil engine to all state seed farm.

**(vi) Project Cost and Financing**

Supply of oil engine to all the state seed farm.

**(vii) Implementation of the Project**

Supply of 10 HP oil engine



Higher production

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District, 7 state seed farms are there to meet out water problem 10 HP oil engine to be supplied at 100 per cent subsidy.

**(x) Budget**

**Table 6.35 Budget details of Supply of 10 HP Oil engine to State Seed Farm**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	2	1.0
2.	2009-10	2	1.0
3	2010-11	2	1.0
4	2011-12	-	-
	<b>Total</b>	<b>6</b>	<b>3.0</b>

**6.1.36 Establishment of Seed Storage Godowns****(i) Background / Problem Focus**

In Thiruvarur District, 7 state seed farms are there to meet out seeds demand, seed storage go down should be established in all state seeds farms.

**(ii) Project Rationale**

To get higher production in state seed farms, seed storage go-down should be established in all state seeds farms.

**(iii) Project Strategy**

Seed storage go- down should be established in all state seeds farms.

**(iv) Project Goals**

To get higher production in state seed farms, seed storage go-down should be established.

**(v) Project Component**

Establishment of seed storstge Godowns in state seed farms.



**(vi) Project Cost and Financing**

Establishment of seed storage Godowns in state seed farms.

**(vii) Implementation of the Project**

Establishment of seed storage Godowns



Higher seed production

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

In Thiruvarur District, 7 state seed farms are there to meet out seeds demand. Seed storage godown should be established in all state seeds farms

**(x) Budget**

**Table 6.36 Budget details of Establishment of Seed Storage Godowns**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	1	20.0
2.	2009-10	1	25.0
3	2010-11	1	30.0
4	2011-12	1	35.0
	<b>Total</b>	<b>4</b>	<b>110.0</b>

**6.1.37 Setting up of Bio-control Labs through TANWABE/FIG @ Rs.5.00 lakh/Group**

**(i) Background / Problem Focus**

In Thiruvarur District about 1.45 lakhs ha. are cultivated with Paddy, Pulses, Groundnut, Cotton, Sugarcane etc., In Agriculture, pest incidence is a major problem which needed to be managed through IPM technology for the supply of bio-agents throughout the District, bio-control labs should be established for better adoption of IPM.

**(ii) Project Rationale**

Bio-control labs should be established for best adoption of IPM in Thiruvarur District.

**(iii) Project Strategy**

Identification of better functioned Farmers Interest Group/Group can be done & they should be provided with bio-control labs @ Rs.5 lakh/lab.

**(iv) Project Goals**

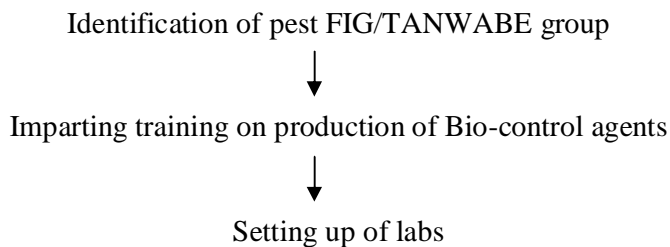
By establishing bio-control labs through Farmers Interest Group & TANWABE cent percent IPM can be made which results in higher production.

**(v) Project Component**

Establishing Bio-control lab through TANWABE/FIG Group @ Rs.5 lakh/Group.

**(vi) Project Cost and Financing**

By establishing Bio-control lab @ Rs.5 lakh/Group from NADP funds, cent percent adoption of IPM can be achieved which increases the production.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

By establishing bio-control lab through FIG/TANWABE groups @ Rs.5.00 lakh/No. cent percent IPM technology adoption will be made, which will lead to higher production. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.37 Budget details of Setting up of Bio-control Labs through TANWABE/FIG**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	2	10.0
2.	2009-10	-	-
3	2010-11	1	5.0
4	2011-12	1	5.0
	Total	<b>4</b>	<b>20.0</b>

**6.1.38 Organizing of Farmers Training @ Rs.5000/Training****(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh agriculturists are wholly depending upon crops like paddy, Pulses, Cotton Groundnut, Sugarcane etc. To get higher income, all farmers should be trained in recent improved technologies.

**(ii) Project Rationale**

In order to increase the income level of the farmer, all farmers should be trained in recent improved technologies @Rs.5000/Training.

**(iii) Project Strategy**

Farmers should be identified at the village level and the training should be imparted in new modern technologies.

**(iv) Project Goals**

Imparting training to farmers in new technologies will increase the income status of the farmers.

**(v) Project Component**

Imparting training to farmers @ Rs.5000/Training.

**(vi) Project Cost and Financing**

Imparting training to farmers @Rs.5000/Training to all farmers on new improved; technologies.

**(vii) Implementation of the Project**

Identification of farmers



Formation of curriculum



Conduction of Training

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, all farmers should be trained in new improved technologies @ Rs.5000/Training. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.38 Budget details of Organizing of Farmers Training**

<b>Sl. No</b>	<b>Year of implementation</b>	<b>Physical (Nos)</b>	<b>Finance (Rs.in Lakhs)</b>
1	2008-09	130	6.5
2.	2009-10	125	6.25
3	2010-11	130	6.5
4	2011-12	111	5.55
	<b>Total</b>	<b>496</b>	<b>24.80</b>

**6.1.39 Conducting Extension Workers Training @ Rs.10000/Training****(i) Background / Problem Focus**

In Thiruvarur District, 2.00 lakh agriculturists are there wholly depending upon crops like paddy , Pulses, Cotton, Groundnut, Sugarcane etc., To uplift the knowledge of farmers, officials should be trained in all new improved technologies.

**(ii) Project Rationale**

In order to increase the income level of the farmer, all officials should be trained in recent improved technologies @Rs.10000/Training.

**(iii) Project Strategy**

To increase the income level of the farmer, officials should be trained in new modern technologies.

**(iv) Project Goals**

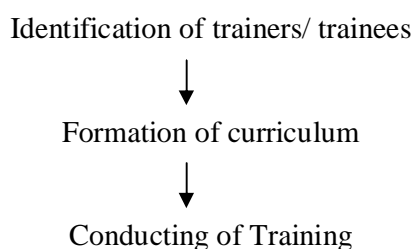
Imparting training to officials with new technologies will increase the income status of the farmers.

**(v) Project Component**

Imparting training to officials @ Rs.10000/Training.

**(vi) Project Cost and Financing**

Imparting training to officials @Rs.10000/Training to all officials on new improved technologies.

**(vii) Implementation of the Project**

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, all officials should be trained in new improved technologies @ Rs.10000/Training. The progress made should be submitted to the Nodal Officer monthly.

**x) Budget****Table 6.39 Budget details of Conducting Extension Workers Training**

Sl. No	Year of Implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	21	2.1
2.	2009-10	21	2.1
3	2010-11	21	2.1
4	2011-12	21	2.1
	<b>Total</b>	<b>84</b>	<b>8.4</b>

**6.1.40 Exposure Visit of Farmers (Inter State) @ 1 Lakh/visit****(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh agriculturists are there wholly depending upon crops like Paddy, Pulses, Cotton Groundnut, Sugarcane etc., To get higher income, all farmers should be trained in recent high technologies through exposure visit to other states.

**(ii) Project Rationale**

In order to increase the income level of the farmer, all farmers should trained in recent high technologies through exposure visit @ Rs.1 Lakh/visit.

**(iii) Project Strategy**

Farmers should be identified at the village level and the training should be imparted in new modern technologies through exposure visits.

**(iv) Project Goals**

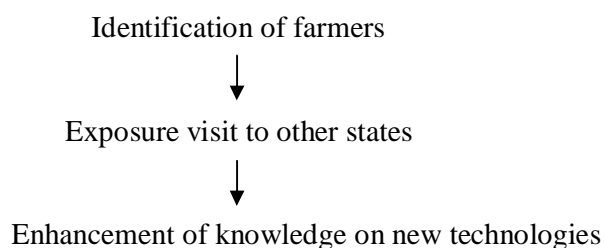
Imparting training to farmers in new technologies through exposure visit will increase the income status of the farmers.

**(v) Project Component**

Conducting of exposure visit @ Rs.1 Lakh/visit.

**(vi) Project cost and Financing**

Conducting of exposure visit to farmers fields @ Rs.1 Lakh/visit under NADP fund.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, all farmers should be trained in new improved technologies through exposure visit @ Rs.100000/visit. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.40 Budget details of Exposure visit of farmers (Inter state)**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	32	32.0
2.	2009-10	26	26.0
3	2010-11	41	41.0
4	2011-12	41	41.0
	<b>Total</b>	<b>140</b>	<b>140.0</b>

#### **6.1.41 Exposure Visit of Officials (Inter Country)**

##### **(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh agriculturists are there wholly depending upon crops like paddy, Pulses, cotton Groundnut, Sugarcane etc., To get higher income, all officials should be trained in recent high technologies through exposure visit to other countries.

##### **(ii) Project Rationale**

In order to increase the income level of the farmer, all officials who are to train the farmers should be trained in recent high technologies through exposure visit @ Rs.5 Lakh/No.

##### **(iii) Project Strategy**

Conducting exposure visit to other countries @ Rs.5 Lakh/No will increase the official's knowledge on new technologies which in turn will be useful to the farmers to be trained by them.

##### **(iv) Project Goals**

Imparting training to officials in new technologies through exposure visit will increase the income status of the trained farmers.

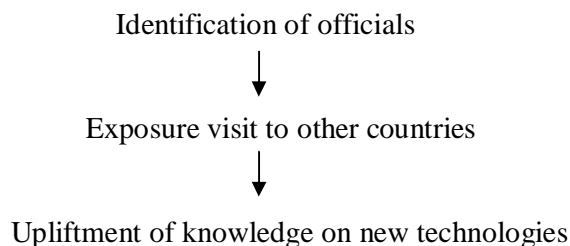
##### **(v) Project Component**

Conduct of exposure visit @ Rs. 5 Lakh/visit.

##### **(vi) Project Cost and Financing**

Conduct of exposure visit to farmers @ Rs5 Lakh/visit under NADP fund.

##### **(vii) Implementation of the Project**





**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, all officials should be trained with new improved technologies through exposure visit @ Rs.500000/visit. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget****Table 6.41 Budget details of Exposure Visit of Officials (Inter Country)**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	6	30.0
2.	2009-10	6	30.0
3	2010-11	6	30.0
4	2011-12	6	30.0
	<b>Total</b>	<b>24</b>	<b>120.0</b>

**6.1.42 Conducting of Kisan Mela @ Rs.1 Lakh/No.****(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh agriculturists are there wholly depending upon cultivation of crops like paddy, Pulses, Cotton Groundnut, Sugarcane etc., To get higher income, all farmers should be trained in recent high technologies through organization of Kisan mela.

**(ii) Project Rationale**

In order to increase the income level of the farmer, all farmers should be trained in recent improved technologies through organisation of kisan mela @ Rs.1 Lakh/mela.

**(iii) Project Strategy**

Farmers should be identified at the village level and the training should be imparted in new modern technologies through kisan mela.

**(iv) Project Goals**

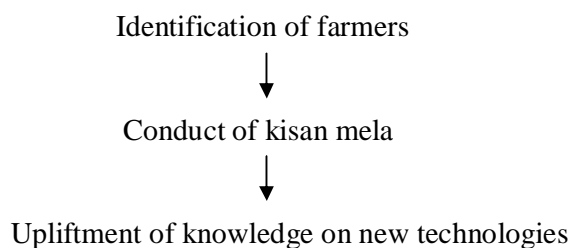
Imparting training to farmers in new technologies through kisan mela will increase the income status of the farmers.

**(v) Project Component**

Conducting of kisan mela @ Rs. 1 Lakh/mela.

**(vi) Project Cost and Financing**

Conducting of kisan mela to farmers @ Rs.1 Lakh/mela under NADP fund.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, all farmers should be trained in new improved technologies through Kisan mela @ Rs.100000/No. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.42 Budget details of Conducting of Kisan Mela**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	4	4.0
2.	2009-10	4	4.0
3	2010-11	3	3.0
4	2011-12	4	4.0
	<b>Total</b>	<b>15</b>	<b>15.0</b>

**6.1.43 Conduct of Study Tour @ Rs.1 Lakh/No.****(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh agriculturists are there wholly depending upon crops like paddy, Pulses, Cotton Groundnut, Sugarcane etc., To get higher income, all farmers should be trained in recent high technologies through Study Tour.

**(ii) Project Rationale**

In order to increase the income level of the farmer, all farmers should be trained in recent high technologies through Study Tour @ Rs.1 Lakh/visit.

**(iii) Project Strategy**

Farmers should be identified at the village level and the training should be imparted in improved technologies through Study tour.

**(iv) Project Goals**

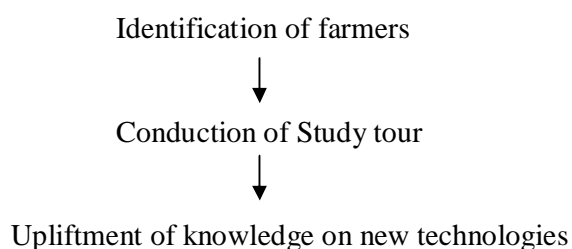
Imparting training to farmers in new technologies through Study Tour will increase the income status of the farmers.

**(v) Project Component**

Conduct of Study Tour @ Rs. 1 Lakh/visit.

**(vi) Project Cost and Financing**

Conduct of Study tour to farmers @ Rs.1 Lakh/visit under NADP fund.

**(vii) Implementation of the Project**

**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, all farmers should be trained with new improved technologies through Study Tour @ Rs.100000/No. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget****Table 6.43 Budget details of Conduct of Study Tour**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.in Lakhs)
1	2008-09	3	3.0
2.	2009-10	5	5.0
3	2010-11	3	3.0
4	2011-12	4	4.0
	<b>Total</b>	<b>15</b>	<b>15.0</b>

**6.1.44 Precision Farming in Groundnut****(i) Background / Problem Focus**

In Thiruvarur District about 3000ha. are under Groundnut Cultivation. To increase the production and productivity of Groundnut, precision farming should be adopted in Thiruvarur District @ Rs.50000/Ha.

**(ii) Project Rationale**

In order to increase the income level of the farmer, all farmers should be given inputs under Precision farming @ Rs.50000/Ha.

**(iii) Project Strategy**

Farmers should be identified at the village level and inputs should be distributed; to the farmers for the implementation of precision farming.

**(iv) Project Goals**

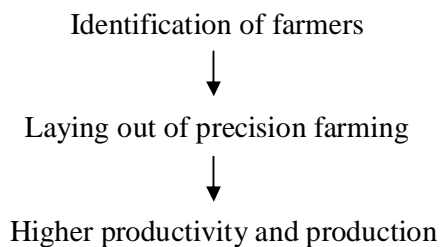
Distributing inputs; needed for precision farming will result in higher productivity in Groundnut.

**(v) Project Component**

Distribution of inputs needed for precision farming @ Rs. 50000/Ha.

**(vi) Project Cost and Financing**

Precision farming should be undertaken with the fund of about Rs.50000/Ha. Under NADP.

**(vii) Implementation of the Project****(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

To increase the income level of the farmers, Precision farming should be adopted in farmer's field @ Rs.50000/Ha. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.44 Budget details of Precision Farming in Groundnut**

Sl. No	Year of implementation	Physical (Nos)	Finance (Rs.)
1	2008-09	1	0.5
2.	2009-10	2	1.0
3	2010-11	1	0.5
4	2011-12	2	1.0
	<b>Total</b>	<b>6</b>	<b>3.0</b>

### **6.1.45 Eradication of Ipomea in River Banks and Channels**

#### **(i) Background / Problem Focus**

In Thiruvarur District about 2.00 lakh agriculturists are there wholly depending upon crops like paddy, Pulses, Cotton Groundnut, Sugarcane etc., cultivated in about 1.45 Lakh Ha. which are mainly irrigated through river channels. Every year accumulation of Ipomea a problem in drainage channels which; results in flood. To overcome this problem, eradication of Ipomea should be done @ Rs.5000/Km.

#### **(ii) Project Rationale**

In order to overcome the problem of Ipomea which is a hidden problem in irrigation in Thiruvarur District, it should be eradicated.

#### **(iii) Project Strategy**

Identification of problematic area should be found out and Ipomea should be eradicated through machineries/chemicals.

#### **(iv) Project Goals**

Eradication of Ipomea in river channels results in good irrigation .

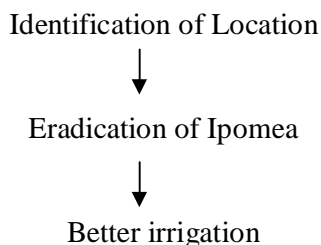
#### **(v) Project Component**

Eradication of Ipomea in river channels and banks.

#### **(vi) Project Cost and Financing**

Eradication of Ipomea in river channels and banks @ Rs.5000/KM.

#### **(vii) Implementation of the Project**



**(viii) Reporting**

The Monthly progress reports should be submitted to the Nodal Officer.

**(ix) Abstract**

Eradicating of Ipomea @ Rs.5000/KM will result in good irrigation. The progress made should be submitted to the Nodal Officer monthly.

**(x) Budget**

**Table 6.45 Budget details of Eradication of Ipomea in River Banks and Channels**

Sl. No	Year of implementation	Physical (in Km)	Finance (Rs.in Lakhs)
1	2008-09	1550	77.5
2.	2009-10	950	47.5
3	2010-11	1560	78.0
4	2011-12	1030	51.5
	<b>Total</b>	<b>5090</b>	<b>254.5</b>

**6.1.46 Establishment of Seed Testing Laboratory at Thiruvarur District****1. Introduction**

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

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

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

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

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

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

To meet the increasing demand of farming community, seed growers, seed producers, seed dealers of the district and 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 Thiruvarur district.

## **2. 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 that 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.

## **3. Role of Seed Testing Laboratories in Seed Quality Control**

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



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

### **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.

### **4. 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 Thanjavur 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 Thiruvarur 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.

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. In the present scenario, where Seed Testing Laboratory is not available in the district the seed producers, seed dealers and farmers find it very difficult to send the seed samples for analysis. Hence, facilitating the seed producers, seed dealers and farmers by establishing Seed Testing Laboratory in the district will be of much use. Accordingly, a Seed Testing Laboratory is proposed to be established in Thiruvarur 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 Thiruvarur district under National Agricultural Development Programme at a financial outlay of Rs.6.00 lakhs towards provision of laboratory equipments.

### **5. Activities Proposed**

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

## **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 work chair are necessary for carrying out various works like germination, purity analysis and for working of equipments etc.

## 8. Computers with Accessories

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

## 6. Cost Aspects

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

**Table 6.46 List of Equipments for Seed Testing Laboratories**

Sl.No.	Name of the Instrument/Equipment	Approx. Qty required for One lab	Approx. cost Per unit rupees	Aprox. cost for One lab. Rupees
1	Weighing Balance-Top Loading	1	5000	5000
2	Illuminated purity Work board	1	4000	4000
3	Electronic Weighing balance (0.1 mg)	1	30000	30000
4	Soil type divider	1	7500	7500
5	Digital moisture meter with stabilizer	1	17500	17500
6	Germination trays	200	175	35000
7	Petri dishes	50	300	15000
8	Thermometer	1	300	300
9	Hygrometer	1	1500	1500

**Table 6.46 Contd...**

<b>Sl.No.</b>	<b>Name of the Instrument/Equipment</b>	<b>Approx. Qty required for One lab</b>	<b>Approx. cost Per unit rupees</b>	<b>Aprox. cost for One lab. Rupees</b>
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
	<b>Total</b>			<b>600000</b>

**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.**

### **7. Operation and Maintenance Cost of the Running Laboratory**

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

**8. Benefits**

The Seed Testing laboratory is an important institution in carrying out the seed production and seed certification program. The accuracy and reproducibility in the analyzed results is of paramount importance to the seed producer, processor, certification and seed law enforcement officials. Establishment of seed testing laboratory at Thiruvarur 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.

**9. Expected Date of Completion**

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

**10. Monitoring and Evaluation**

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

**Table 6.47 Agriculture Sector – Budget Details****Unit: Lakhs**

Sl.No	Technologies Identified	Unit	I. Rice Fallow Cotton							
			2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Area Expansion	Ha.	3062	-	3657	-	3727	-	3897	-
2	Projected Production	Kg/Ha.	1550	-	1920	-	2240	-	2500	-
3	Distribution of high yielding variety @ Rs.20/Kg.	Quintal	44	0.88	60	1.2	56	1.12.	56	1.12
4	Distribution of hybrid seeds @ Rs.300/pkt	No.	451	1.353	572	1.716	703	2.109	835	2.505
5	IPM @ Rs.5000/No.	No.	106	5.3	145	7.25	53	2.65	143	7.15
6	FFS @ Rs.17000/No.	No.	16	2.72	25	4.25	16	2.72	25	4.25
7	Distribution of MN Mixture @ 50per cent subsidy @ Rs.58.80/Ha	Ha.	800	0.47040	810	0.47628	820	0.48216	775	0.45570
8	Production of Seed subsidy @ Rs.50/Kg.	Quintal	49	2.45	49	2.45	55	2.75	20	2.25
9	Distribution of trap crop @ Rs.20/Kg. @Rs.200/Ha.	Ha.	395	0.79	505	1.01	615	1.23	720	1.44
	<b>Total</b>		-	<b>13.9634</b>	-	<b>18.3523</b>	-	<b>13.06116</b>	-	<b>19.1707</b>

**Table 6.48 Groundnut – Budget Details**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
2	Distribution of Breeder seeds at 50per cent subsidy @ Rs.500/Qtl.	Qtl.	430	2.15	470	2.35	410	2.05	550	2.75
3	Distribution of Foundation seeds at Rs.25/Kg	Qtl	465	11.625	590	14.75	570	14.25	750	18.75
4	Distribution of Certified seeds @ Rs.20/Kg.	Qtl.	1030	20.60	1095	21.90	1160	23.20	1225	24.50
5	Distribution of certified seeds @ Rs.10/Kg.	Qtl.	2110	21.10	2215	22.15	1320	13.2	2425	24.25
6	Distribution of Gypsum @ 50per cent subsidy @ Rs.780/Ha	Ha.	1600	12.48	2300	17.94	1700	13.26	1850	14.43
7	Distribution of MN.Mixture @ 50per cent subsidy @Rs.469/Ha	Ha.	800	3.752	750	3.518	800	3.752	850	3.9865
8	Distribution of Seed Treatment Chemicals @ 50per cent subsidy @ Rs.75/Ha.	Ha.	700	0.525	750	0.563	800	0.6	850	0.637
9	Farmers field school @ Rs.22000/No.	No.	5	1.1	5	1.1	5	1.10	3	0.66
10	2per cent DAPsray for pulses		13,200	26.4						
	<b>Total</b>			<b>99.732</b>	-	<b>84.271</b>	-	<b>71.412</b>	-	<b>89.9635</b>



**Table 6.49 Coconut – Budget Details**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Coconut nursery in SSF @ Rs.5 lakh/No.	No.	3	15.0	1	5	-	-	-	-

**Table 6.50 Agricultural Mechanization – Budget Details**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Distribution of Harvest Machine at 75per cent subsidy @ Rs.20 Lakh/No	No.	40	600.0	45	675.0	41	615.0	41	615.0
2	Distribution of Rice transplanted at 50per cent subsidy @ Rs.2 Lakh/No	No.	30	45.0	30	45.0	33	49.5	35	52.5
3	Training on machine maintenance @ Rs.10000/Training 3 days	No.	15	1.5	15	1.5	15	1.5	15	1.5
4	Distribution of Ridger @ 75per cent subsidy @ Rs.10000/No	No.	10	0.75	10	0.75	12	0.9	12	0.9

Table 6.50 Contd...

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
5	Mechanical conoweeder @ 75per cent subsidy @ Rs.10000/No.	No.	100	7.5	125	9.375	150	11.25	175	13.125
6	Drum seeder at 75per cent subsidy @ Rs.5000/No.	No.	10	0.375	125	4.6875	150	5.625	175	6.5625
7	SRI marker at 75per cent subsidy @ Rs.10000/No.	No.	100	7.5	125	9.375	150	11.25	175	131.25
8	Recharging of Ground water table thro' old wells 100per cent subsidy @ Rs.5000/No.	No.	100	5.0	125	6.25	150	7.5	175	8.75
9	Recharging of Ground water table thro' new wells 100per cent subsidy @ Rs.1000/No.	No.	100	10.0	125	12.5	150	15.0	175	17.5
10	Distribution of storage pest monitoring implement @ 75per cent subsidy @ Rs. 2700/- No.	No.	100	2.025	125	2.53125	150	3.0375	175	3.54375
11	Distribution of hand sprayer @ 50per cent subsidy @ Rs.1600/No.	No.	300	2.4	300	2.4	-	-	-	-
	<b>Total</b>			<b>682.05</b>	<b>-</b>	<b>769.369</b>	<b>-</b>	<b>720.563</b>	<b>-</b>	<b>850.631</b>

**Table 6.51 Restoring Soil Health**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Setting up of MSTL	No.	-	-	-	-	-	-	-	-
2	Issue of Soil Health Card	No.	5450	0.545	11000	1.1	7900	0.79	9000	0.9
3	M.N. Mixture Demonstration @ 1000/No.	No.	360	3.6	700	7.0	592	5.92	592	5.92
4	Human Resource Development	No.	6	0.72	-	-	-	-	1	0.12
	<b>Total</b>			<b>4.865</b>	-	<b>8.1</b>	-	<b>6.70</b>	-	<b>6.94</b>

**Table 6.52 Support to State Seed Farm**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Power tiller @ Rs.1 Lakh/No.	No.	9	9.0	1	1.0	-	-	-	-
2	Digging of farm ponds @ Rs.1 lakh/No.	No.	3	3.0	5	5.0	-	-	-	-
3	Fencing @ Rs.2 Lakhs/km	Km	9	18.0	7	14.0	7	14.0	4	8
4	Distribution of 10 HP Oil Engine	No.	2	1.0	2	1.0	2	1.0	-	-
5	Seed Go downs	No.	1	20.0	1	25.0	1	30.0	1	35
	<b>Total</b>		-	<b>51.0</b>	-	<b>46.0</b>	-	<b>45.0</b>	<b>5</b>	<b>43.0</b>

**Table.6.52.a Integrated Pest Management**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Establishment of Bio-Control Lab thro' TANWABE/FIG @ Rs.5 Lakh/Group	No.	2	10.0	-	-	1	5.0	1	5.0

**Table 6.53 Infrastructure Development for Training and Visits**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Farmers Training @ Rs.5000/Training	No.	130	6.5	125	6.25	130	6.5	111	5.55
2	Officer's Training @ Rs.10000/Training	No.	21	2.1	21	2.1	21	2.1	21	2.1
3	Exposure visit to farmers @ Rs.1 lakh/person	person	32	32.0	26	26.0	41	41.0	41	41.0
4	Exposure visit to officer's @ Rs.5 lakh/person	person	6	30.0	6	30.0	6	30.0	6	30.0
5	Kissan mela @ Rs.1 lakh/No.	No.	4	4.0	4	4.0	3	3.0	4	4.0
6	Study tour @ Rs.1 lakh/No.	No.	3	3.0	5	5.0	3	3.0	4	4.0
	<b>Total</b>		-	<b>77.6</b>	-	<b>73.25</b>	-	<b>85.00</b>	-	<b>86.65</b>

**Table 6.54. Marketing Infrastructure Development**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Establishment of Go-down @ Rs.10 lakh/No.	No.	12	120.0	12	120.0	1	10.0	2	20.0

**Table 6.55. Innovative Schemes – Precision Farming in Groundnut**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Precision farming in Groundnut @ Rs.50000/Ha.	Ha.	1	0.5	2	1.0	1	0.5	2	1.0

**Table 6.56 Eradication of Ipomea in River Channels**

Sl. No	Technologies Identified	Unit	2008-09		2009-10		2010-11		2011-12	
			Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)	Physical (No.)	Financial (Rs.)
1	Eradication of Ipomea in river channels @ Rs.5000/Km.	Km.	1550	77.5	950	47.5	1560	78.0	1030	51.5
	<b>Grand Total</b>			<b>1158.2104*</b>		<b>1172.8423</b>		<b>1035.2462</b>		<b>1173.8552</b>

\*Includes Rs.6.00 lakhs for Seed Testing Laboratory

**Table 6.57 Abstract**

<b>S.No</b>	<b>Year</b>	<b>Budget Estimate (L.Rs.)</b>
1	2008-09	1158.2104
2	2009-10	1172.8423
3	2010-11	1035.2462
4	2011-12	1173.8552
	<b>Total</b>	<b>4540.1541</b>

## **6.2 Horticulture**

### **6.2.1 Providing Net House Structure for Vegetable Nursery**

#### **(i) Background**

Vegetable nursery requires shade and protected condition. Because of the indiscriminate felling of trees, the trees which were available in olden days providing shade to the nursery are not available nowadays. Insect damage, cattle damage etc. have been problems.

#### **(ii) Project Rationale**

The net house structure is required to protect the Vegetable seedlings from sun scorching, insect and cattle damage and to improve the success percentage of seedlings. The seedlings produced under net house structure will be free from pest and disease and will be healthy and also the percentage of germination will be more. Thus farmers will be saved from losing a crop or from the consequence of shortage of healthy seedlings.

#### **(iii) Project Strategy**

The interested farmers will be selected. Introduction of this method will be made in the selected farmer's field, to serve as a model for the surrounding farmers. The net house structure will be erected on contract basis by inviting tenders.

**(iv) Project Goals**

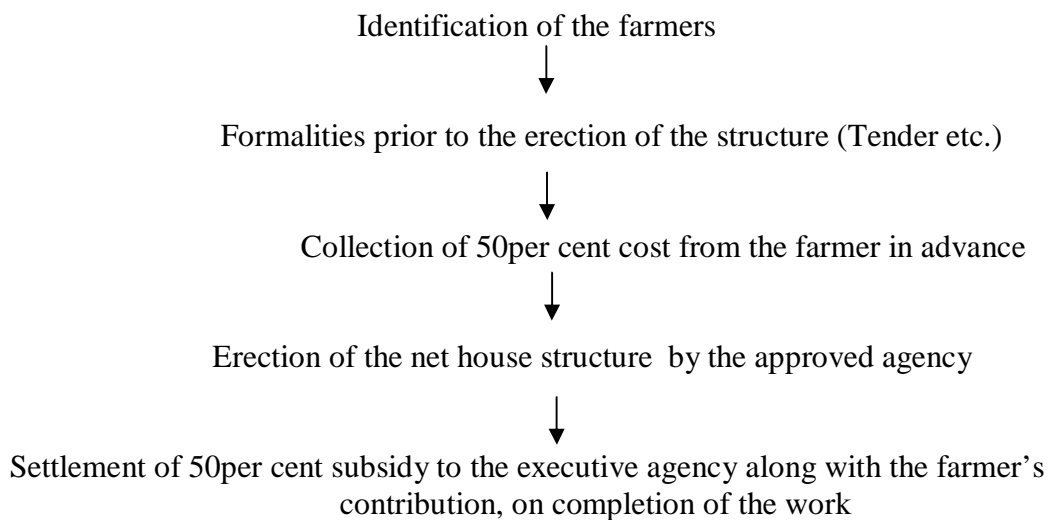
To decrease the mortality rate and to increase the percentage of success of the vegetable seedlings. To save the farmers from losing a crop or shortage of healthy seedlings.

**Project Components**

Erection of Net House structures of 100 sq meter each.

**(v) Project Cost and Financing**

The estimated cost for the erection of the net house structure in 300 square meter is one lakh. Even if 50 per cent subsidy is given the farmers of this district can't afford this. Farmers of this District are poor, and do cultivation in small holdings, it is proposed to provide net house structure in an area of 100 sq.mt. / Per farmer. Cost of construction of the 3 net houses of 100 sq.mt each is estimated to be Rs. 1.00 lakh. 50 per cent cost will be collected in advance from the farmer in the form of Demand Draft. Remaining 50 per cent will be paid to the executing agency along with the farmer's contribution, on completion of the work.

**(vi) Implementation Chart**

**(vii) Reporting**

Monthly progress reports will be sent to the Nodal Officer-the Director, CARDS, TNAU, and marking copies to the Head of the Department.

**(viii) Abstract**

Vegetables nursery requires shade. Mortality occurs due to pests and diseases, cattle damages, and sun scorching in open condition. In order to minimize the loss and also to enhance the percentage of success of the seedlings, it is proposed to provide net house structure to the vegetable farmers. By adopting the structure, the farmers will get more percentage of disease free, healthy vegetable seedlings and in turn their profit will be increased. The farmers of this district are doing vegetable cultivation in small scale only. Therefore each farmer will be provided Net House for only 100 sq.mt. 50 per cent subsidy will be given from the NADP fund.

**(ix) Budget**

Unit cost Rs. 1.00 lack/300sq. mt.

**Table 6.58. Provision of Net House****(Rs. in lakhs)**

Sl No.	Year of Implementation	Physical in sq. meters	Finance	
			Full cost	50 percent subsidy amount
1.	2008 – 09	300	1.00	0.50
2.	2009 – 10	--	--	--
3.	2010 – 11	--	--	--
4.	2011 – 12	--	--	--
	<b>Total</b>	<b>300</b>	<b>1.00</b>	<b>0.50</b>



## **6.2.2 Providing Pandal (Support Structure) for Vegetable Production in the Farmers' Fields**

### **(i) Background / Problem Focus**

Area under vegetable cultivation accounts to about 86 ha in Tiruvarur District, of which Snake Gourd, Lab-Lab and Bitter gourd are cultivated in many areas of Tiruvarur District. Normally farmers install pandal for these vegetables by locally available sticks, bamboos etc. By this conventional method of using sticks and bamboos for pandal, farmers often meet with losses due to the collapse / damage of the pandals by heavy wind, cattle etc. A solution to this problem will improve the income of the farmer.

### **(ii) Project Rationale**

When gourds are grown in pucca pandals, the damage due to heavy wind and cattle are prevented. The income of the farmer will increase, in the long run.

### **(iii) Project Strategy**

Pucca pandal is maintenance free. The potential farmers will be identified by the field staff of the Department of Horticulture. Campaigns will be arranged at village level to convince them of the worthfulness of the investment.

### **(iv) Project Goals**

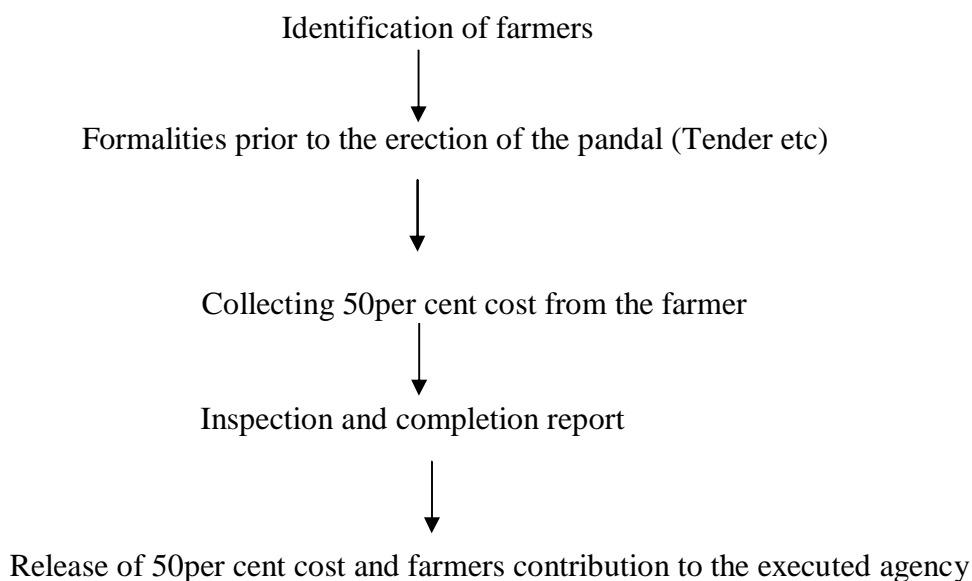
To reduce the cost of cultivation, in the long run. Making the maintenance work on the pandal almost Nil. To increase the profit. Chances of growing other crops in the same field during the non-crop period.

### **(v) Project Components**

Execution of the pandal erection work on contract basis through Tender.

### **(vi) Project Cost and Financing**

The execution will be made on contract basis through tender. The 50 per cent of the cost will be collected from the farmer in advance in the form of Demand Draft favouring the executing agency and will be handed over to the agency on completion of the work, along with the 50 per cent cost availed from the fund of NADP.

**(vii) Implementation Chart****(viii) Reporting**

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

**(ix) Abstract**

It is known that about 25 per cent of the loss is due to improper pandal management in the cultivation of Snake Gourd, Lab-Lab, Bitter Gourd. Using GI pandal will prevent the loss and increase the profit of the farmer in the long run and also increase the availability of vegetables for consumption. Farmers will be convinced of the method and the pandals will be erected in their fields at 50per cent subsidy. Subsidy will be availed from NADP fund and remaining 50 per cent will be collected from the farmers and paid to the executing Agency.

**(x) Budget**

Unit Cost – Rs.1.00 lakh / ha

**Table 6.59. Providing Pandal for Vegetable Production****(Rs. in Lakhs)**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical No. of Pandal to be erected (ha)</b>	<b>Full Cost</b>	<b>50 per cent subsidy amount</b>
1.	2008 – 09	2	2.0	1.0
2.	2009 – 10	2	2.0	1.0
3.	2010 – 11	2	2.0	1.0
4.	2011 – 12	2	2.0	1.0
	<b>Total</b>	<b>8</b>	<b>8.0</b>	<b>4.00</b>

### **6.2.3 Package for Plant Protection Measures to the Farmers**

#### **(i) Background**

In Thiruvarur District, Horticulture Crops are being grown in about 1000 hactres. Every Year Seeds and Plants are being distributed to the farmers at subsidized cost through an on-going scheme. The Horticulture crops are affected by the incidence of pests and diseases, resulting in yield loss. Prophylatic measures and timely plant protection management is essential to reduce the incidence of pests and diseases affecting Horticulture crops. In order to encourage the farmers and to increase the area under Horticulture crops especially Vegetable crops, suitable package for plant protection measures is highly necessary.

#### **(ii) Project Rationale**

The incidence of pest and disease can be reduced considerably by adopting the recommended package of plant protection measures. The yield of the crops will increase and the Profit of the Farmers will also increase. Because of the subsidy, the poor farmers will also be benefited.

**(iii) Project Strategy**

In order to disseminate the suitable recommended packages of plant protection measures, village level awareness campaigns will be conducted in 10 selected villages for specific crops on plant protection measures and publicity will be made through printed literatures.

**(iv) Project Goals**

- 1) To reduce the incidence of pests and diseases thereby increasing the Yield
- 2) To Increase the profit to the farmers.
- 3) To make farmers get acquainted with the integrated approach.

**(v) Project Components**

Resistant varieties

Organic manures

Organic Pesticides

Seed treatment with pseudomonas.

Introduction of light traps / pheromone traps/ sticky traps.

**(vi) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(vii) Abstract**

The Horticulture crops are affected by the incidence of pests and diseases resulting in yield loss. By adopting integrated pest management, the incidence of pests and diseases will be reduced. In order to increase the production and profit of the farmers, organic manures, organic pesticides, Light traps / pheromone traps/ sticky traps will be supplied to the farmers at 50 per cent subsidy. 50 per cent subsidy will be availed form NADP fund and the remaining 50 per cent will be collected form the farmers and paid to the suppliers.

**(viii) Budget**

Unit cost Rs.3000.

**Table 6.60 Package for Plant Protection****(Rs. in Lakhs)**

Sl No.	Year of Implementation	Physical in (Ha)	Full Cost	50 per cent subsidy amount
1.	2008 – 09	25	0.75	0.375
2.	2009 – 10	27	0.810	0.405
3.	2010 – 11	26	0.75	0.375
4.	2011 – 12	27	0.810	0.405
	<b>Total</b>	<b>105</b>	<b>3.120</b>	<b>1.560</b>

**6.2.4 Plastic Crates for Post Harvest Handling of Vegetables****(i) Background**

It is estimated that about 30 per cent of vegetables are lost in post harvest handling from the Farm to the Market / Processing Centre. Because of this wastage, farmers incur losses. Introduction of a suitable method will prevent this post harvest loss.

**(ii) Project Rationale**

When the vegetables are transported in plastic crates, only small quantities are filled up in every crate and the crates are arranged one over the other and side by side. Thus the damage of vegetables while on transport is prevented. Once the farmers become familiar with this method, the present method of transport through Gunny Bags will be replaced.

Moreover the vegetables available for consumption become more, and the farmers' income increases.

**(iii) Project Strategy**

Awareness training will be given to the field staff of the district about the advantages of this method. They will also be exposed to a nearby place where this method is being followed. Then they will go to the potential areas, meet the farmers in person, and canvass them. The list of selected farmers is prepared.

Since the area under vegetables is meagre in this district and the land holding of majority of the farmers is small, introduction of this method will be made in small scale to serve as a demonstration.

**(iv) Project Goals**

To minimise the post harvest losses of vegetables thereby.

**a) Increasing the Profit of the Farmers**

Increasing the availability of vegetables for consumption.

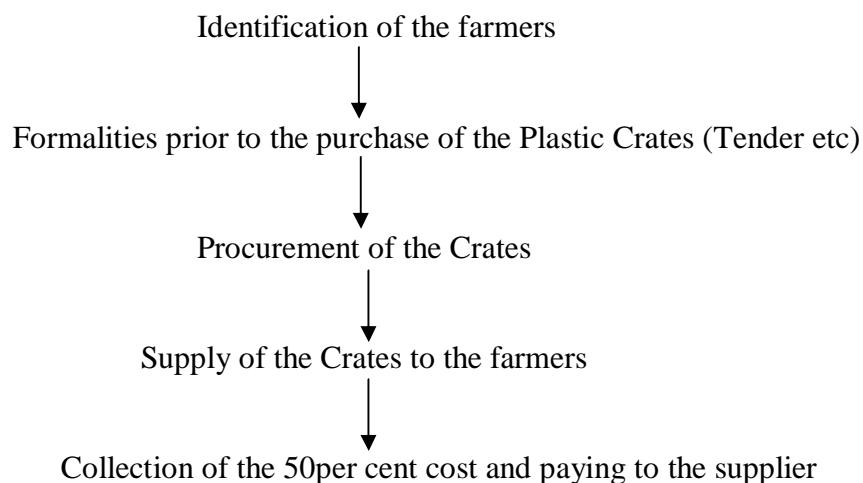
**(v) Project Components**

Plastic Crates

**(vi) Project Cost and Financing**

Estimated cost of a plastic Crate is Rs.250/-. It is proposed to supply the Crates to the farmers at 50per cent subsidy. 50per cent subsidy amount will be availed from NADP Fund, and the remaining 50per cent will be collected from the farmers and paid to the supplier.

**(vii) Implementation Chart**



**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

It is estimated that about 30 per cent of vegetables are lost in post harvest handling. Using plastic crates will prevent the loss and increase the profit of the farmer and also increase the availability of vegetables for consumption. Farmers will be convinced of this method and the plastic crates will be supplied to them at 50 per cent subsidy. 50 per cent subsidy will be availed from NADP Fund and the remaining 50 per cent will be collected from the farmers and paid to the supplier.

**(x) Budget**

Unit Cost – Rs.2.50 / crate.

**Table 6.61. Plastic Crates for Post Harvest Handling**  
(Rs. in Lakhs)

Sl No.	Year of Implementation	Physical No. of Crates to be supplied	Full Cost	50 per cent subsidy amount
1.	2008 – 09	295	0.7375	0.36875
2.	2009 – 10	187	0.4675	0.23375
3.	2010 – 11	185	0.4625	0.23125
4.	2011 – 12	195	0.4875	0.24375
	<b>Total</b>	<b>862</b>	<b>2.155</b>	<b>1.0775</b>

**6.2.5 Provision of Borewell with Casing Pipe to Farmers****(i) Background**

Tiruvarur District is one of the Delta districts, where most farmers are cultivating Rice crop as their main source of livelihood, with the support of Rivers / Canals. Some farmers are cultivating Horticulture Crops to some extent in addition to agricultural crops with the support of rivers / Canals and also bore wells. Some farmers are having

old and defective Borewells. Although electricity connections are existing, such Borewells remain unutilized. Such farmers do not go for sinking new Borewells because of financial constraints. If they are provided with bank loan, along with government subsidies, they will be encouraged to sink new Borewells.

**(ii) Project Rationale**

The financial help as Bank loan and government subsidy will encourage the farmers to come forward interestingly for sinking new Borewells. Consequently the area under cultivation will be increased and the economic status of the farmers will be improved.

**(iii) Project Strategy**

The field staff along the Bankers will conduct awareness campaigns / meetings for the farmers, to make publicity about the project. The field staffs will also meet individual farmers and canvass them and thus identify the beneficiaries. It is proposed to get the work executed through Agricultural Engineering Department.

**(iv) Project Goals**

1. To provide financial assistance to farmers having defunct Borewells.
2. To increase the area under cultivation.
3. To improve the economic status of the farmers.

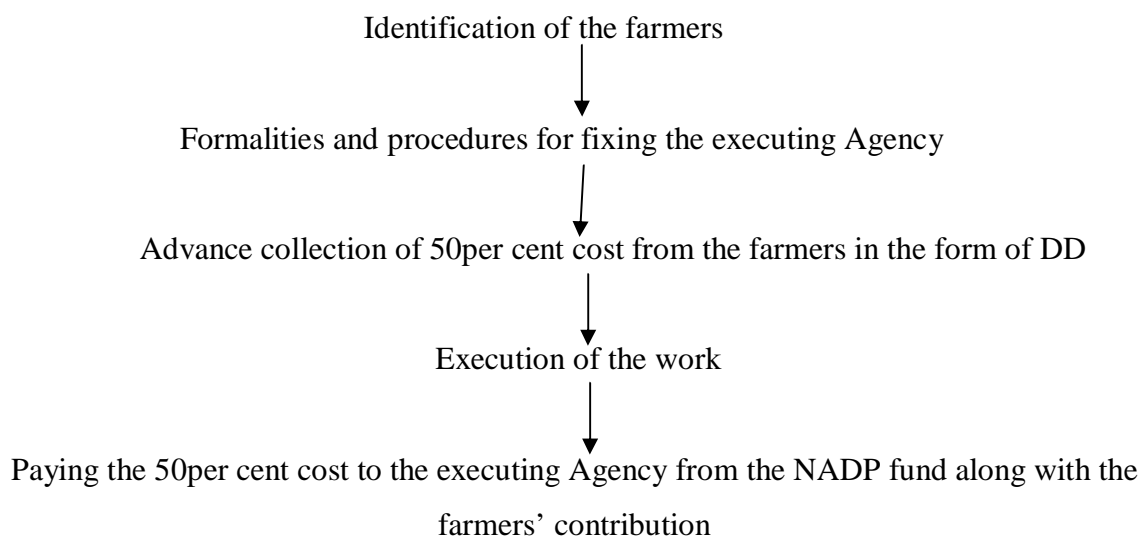
**(v) Project Components**

1. Selection of eligible farmers
2. Erection work by the Agricultural Engineering Department

**(vi) Project Cost and Components**

The estimated cost of sinking a new Borewell is Rs.1.5 lakhs. 50 per cent subsidy amount will be availed from NADP fund and the remaining 50 per cent will be collected from the farmers and paid to the executing agency.



**(vii) Implementation Chart****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

Tiruvarur District is one of the Delta District, where farmers are cultivating Horticultural Crops with Canals and Rivers as their main source of irrigation. Some farmers are cultivating Horticulture Crops using borewells. Farmers having defective Borewells do not attempt to sink new Borewells due to financial constraints. If these farmers are provided with government subsidy along with Bank loan, they will definitely utilise the opportunity and thereby the area under cultivation will be increased. The cost is Rs.1.5 lakhs for sinking a new Borewell. It is proposed to avail 50 per cent subsidy from NADP fund.

**(x) Budget**

Unit Cost: Rs.1.5 lakh / no.

**Table 6.62 Borewell with Casing Pipe****(Rs. in Lakhs)**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical No.</b>	<b>Full Cost</b>	<b>50per cent subsidy amount</b>
1.	2008 – 09	7	10.5	5.25
2.	2009 – 10	7	10.5	5.25
3.	2010 – 11	7	10.5	5.25
4.	2011 – 12	7	10.5	5.25
	<b>Total</b>	<b>28</b>	<b>42</b>	<b>21.00</b>

**6.2.6 Banana Bunch Cover****(i) Background / Problem Focus**

In Tiruvarur District the Banana farmers lack awareness in producing quality produce to suit the market needs, and hence marketing their produce is another hardship for them. Consequently they get low price for their produce. Intermediaries get involved in marketing. So producing uniform quality produce is necessary for the Banana growers to get better profit.

**(ii) Project Rationale**

When the banana bunches are covered with the proposed bunch cover, they will be protected from problems such as pests and diseases, sun-scorching, frost injury etc. Thus the damages can be prevented at the maturity stage. So the farmers will be able to produce quality bunches from their garden. Moreover they get remunerative price for their produce.

**(iii) Project Strategy**

Awareness training will be given to the field staff of the district about this technology. They will also be exposed to nearby research stations / places where this method is being followed. Then they will go to the potential areas, meet the farmers in person and canvass them. The list of selected farmers is prepared.

In Tiruvarur district the Banana crop is being grown in meager area and the land holding of majority of the farmers is small. Introduction of this technology will be made in small scale to serve as a demonstration.

**(iv) Project Goals**

To improve the post harvest quality of the bunches.

Increasing the keeping quality of the Banana bunches

Increasing the profit of the farmers

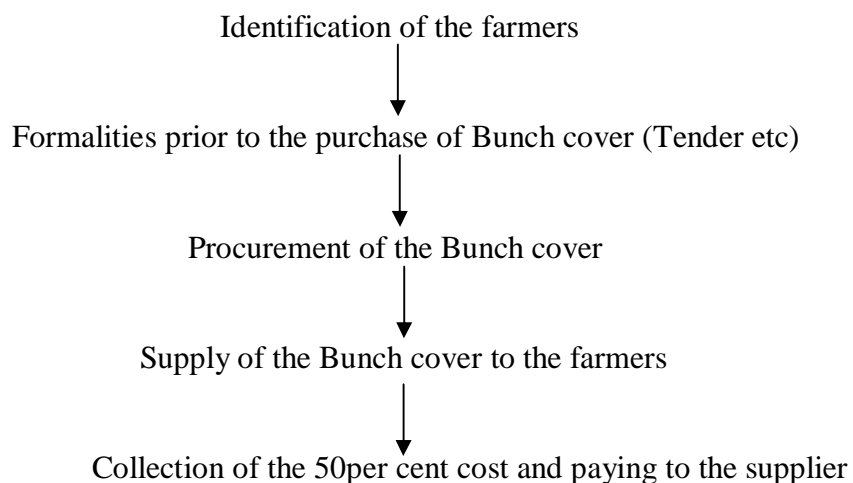
**(v) Project Components**

Plastics sheets for caring the bunches.

**(vi) Project Cost and Financing**

The estimated cost of Banana bunch cover is Rs.10/piece. It is proposed to supply this cover to the farmers at 50per cent subsidy. 50per cent subsidy amount will be availed from the NADP fund and the remaining 50per cent will be collected from the farmers and paid to the supplier.

**(vii) Implementation Chart**



**(viii) Reporting**

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

**(ix) Abstract**

In order to improve the quality of the Banana bunches and to facilitate good marketing, this project on protecting the bunches using Bunch covers is felt necessary. Farmers will be convinced of this method and the Bunch covers will be supplied to them at 50 per cent subsidy. 50 per cent subsidy will be availed from NADP fund and the remaining 50 per cent will be collected from the farmers and paid to the supplier.

**(x) Budget**

Unit cost Rs.10/piece.

**Table 6.63. Banana Bunch Cover****(Rs. in Lakhs)**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical (No. of covers to be supplied in Nos)</b>	<b>Full Cost</b>	<b>50per cent subsidy amount</b>
1.	2008 – 09	1000	0.10	0.050
2.	2009 – 10	950	0.095	0.047
3.	2010 – 11	950	0.095	0.047
4.	2011 – 12	950	0.095	0.047
	<b>Total</b>	<b>3850</b>	<b>0.385</b>	<b>0.1925</b>

**6.2.7 Providing Support System for Banana to save the Crop from Storm / Cyclone****(i) Background**

Banana cultivation normally starts from Jan – Feb in wet land condition. The major problem in Tiruvarur district is the coincidence of heavy rain/ storm during the period of maturity of bunches. At that time, Banana crop needs staking support; without this the farmers will meet with heavy losses.

**(ii) Project Rationale**

When the Banana crop is staked by Casuarina or Bamboo poles, making a tripod, the farmers can save the Banana crop bearing Bunches from heavy rain / storm and avoid yield loss.

**(iii) Project Strategy**

Each Banana plant in the field will be staked with two Bamboo or Casuarina poles making a tripod to protect the Banana crop from natural calamities.

**(iv) Project Goals**

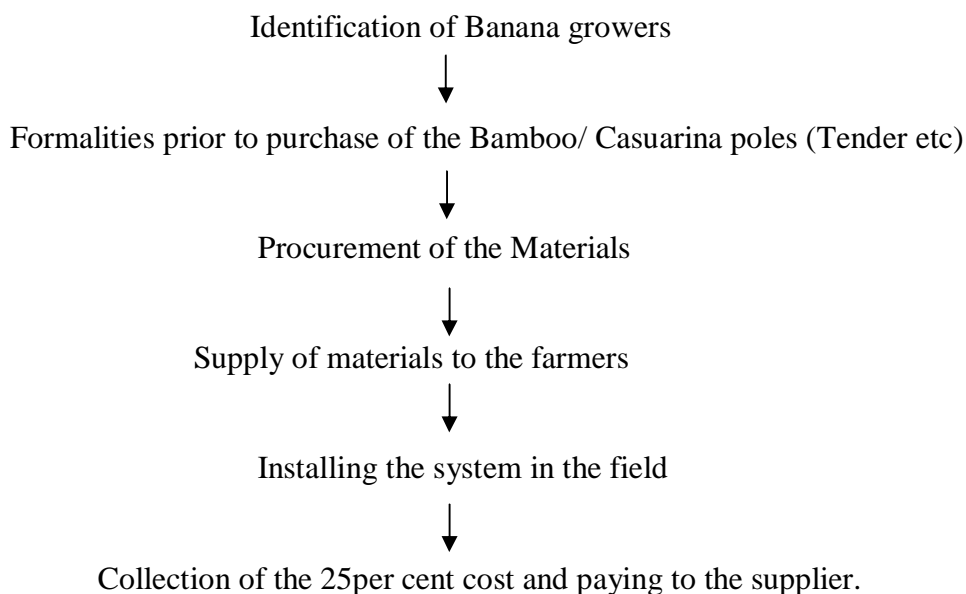
1. To protect the Banana crop bearing Bunches from the cyclone / Heavy rain, thereby preventing heavy losses.
2. Facilitating the farmers by giving assistance to meet the expenditure and to reduce the cost of cultivation, thereby increasing the profit.
3. To help the Government save money, normally spent on relief measures.

**(v) Project Components**

Procurement and supply of Bamboo / Casuarina poles Installation of the support system in the field.

**(vi) Project Cost & Financing**

The cost per hectare is estimated to be Rs. 1.5 lakhs. It is proposed to supply Bamboo / Casuarina poles and Coir Gunny threads at 75 per cent subsidy to the farmers. 75 per cent subsidy amount will be availed from NADP fund remaining 25 per cent will be collected from the farmers and settled to the supplying agency.

**(vii) Implementation Chart****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

It is observed that there are frequent occurrences of storm / cyclone causing heavy damage to Banana crop during bunch maturity stage. During that period, providing staking support enables the crop withstand the storm / cyclone and prevents yield loss to the farmer.

The selected farmers will be supplied with Bamboo/ Casuarina poles for staking at 75 per cent subsidy. 25 per cent of the unit cost will be collected from the farmers and paid to the supplier. 75 per cent subsidy will be availed from the NADP fund.

**(x) Budget**

Unit cost Rs. 1.50Lakhs/ha.

**Table 6.64 Support system for Banana**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical (in ha.)</b>	<b>Full Cost (Rs. in Lakhs)</b>	<b>75 per cent subsidy</b>
1.	2008 – 09	18	27	13.50
2.	2009 – 10	16	24	18.00
3.	2010 – 11	16	24	18.00
4.	2011 – 12	16	24	18.00
	<b>Total</b>	<b>40</b>	<b>99.00</b>	<b>67.5</b>

### **6.2.8 Banana Corm Injectors**

#### **(i) Background / Problem Focus**

In Tiruvarur District, about 350 Ha. of Banana is cultivated in 10 Blocks. The major cultivated varieties are Poovan and Monthan, Karpooravalli, Robusta, Jackia and Grand Naine are the varieties cultivated in small areas. The variety Poovan is susceptible to Panama Wilt disease. The individual holdings of the farmers range from 10 cents to one acre. Providing Banana Corm injector at 50 per cent subsidy to the farmers will help them to control the disease and get better yield.

#### **(ii) Project Rationale**

In the field, Panama Wilt disease can be prevented by corm injection method. A small portion of the soil is removed to expose the upper portion of the Corm. An oblique hole at 45° angle is made to a depth of 10 cm. 3 ml of two per cent Carbendazyme solution is injected into the hole with the help of the Corm Injector on 2nd, 4th and 6th month after planting. This will help controlling / further spread of the disease.

#### **(iii) Project Strategy**

The Banana growing farmers will be identified by field staff of Horticulture Department. Awareness campaigns will be conducted to the Banana growing farmers at village level, regarding the Panama Wilt disease and remedial measures for control. During the campaign demonstration will also be done.

**(iv) Project Goals**

To control the Panama Wilt disease in the farmers fields.

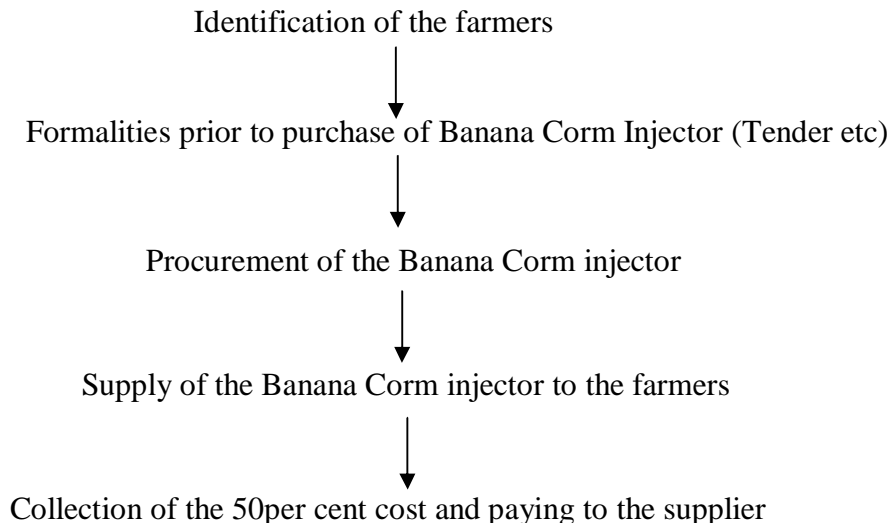
To increase the yield and profit of the farmers

**(v) Project Components**

1. Procurement of the equipment
2. Supply to the farmers with 50 per cent subsidy

**(vi) Project Cost and Financing**

Banana Corm Injectors will be supplied to the farmers at 50 per cent cost of the unit cost of Rs.300/ Number. The 50 per cent subsidy will be availed from the NADP fund. The remaining 50 per cent will be collected from the farmers and paid to the supplier.

**(vii) Implementation Chart****(viii) Reporting**

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



**(ix) Abstract**

The Banana is cultivated in all 10 blocks of this district in a smaller area. Panama Wilt disease is prevalent in this district. It can be prevented by applying 3 ml of 2 per cent Carbandezyme with the help of Banana Corm injector. The Banana growing farmers will be identified and awareness campaigns and demonstrations will be conducted. This equipment will be supplied at 50 per cent cost of the unit cost of Rs.300/Number. The units will be purchased under tender system. 50 per cent amount will be collected from the farmers and paid to the supplier. 50 per cent subsidy will be avail from the NADP funds.

**(x) Budget**

Unit Cost – Rs.300 / no.

**Table 6.65. Banana Corm Injector**

**(Rs. in Lakhs)**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical No.</b>	<b>Full Cost</b>	<b>50 per cent subsidy amount</b>
1.	2008 – 09	86	0.258	0.129
2.	2009 – 10	86	0.258	0.129
3.	2010 – 11	86	0.258	0.129
4.	2011 – 12	6	0.018	0.009
	<b>Total</b>	<b>264</b>	<b>0.792</b>	<b>0.396</b>

**6.2.9 Mango Harvester****(i) Background**

In Mango growing areas, farmers meet with problems like difficulty in harvest, damage to the fruits while harvesting and the consequent post harvest losses. Hence mango harvester is essential. Introduction of this harvester will solve the difficulties in harvesting and also prevent loss in storage and improve the keeping quality of the fruits. By the production of quality Mango fruits, the farmers will get more profit for their produce.

**(ii) Project Rationale**

If the Mango fruits are harvested with the use of mango harvester, it will definitely prevent the damages while harvesting the fruits, and also help the farmers to get good quality fruits. Moreover it will fetch good price for their produce and the farmers can market their produce without hardships and get more income.

**(iii) Project Strategy**

Awareness training will be given for the field staff in the district about the technology. Then they will go to the potential areas, meet the needy farmers in person and canvass them. The list of selected farmers will be prepared. Then the equipment will be supplied to them at 50 per cent subsidy.

**(iv) Project Goals**

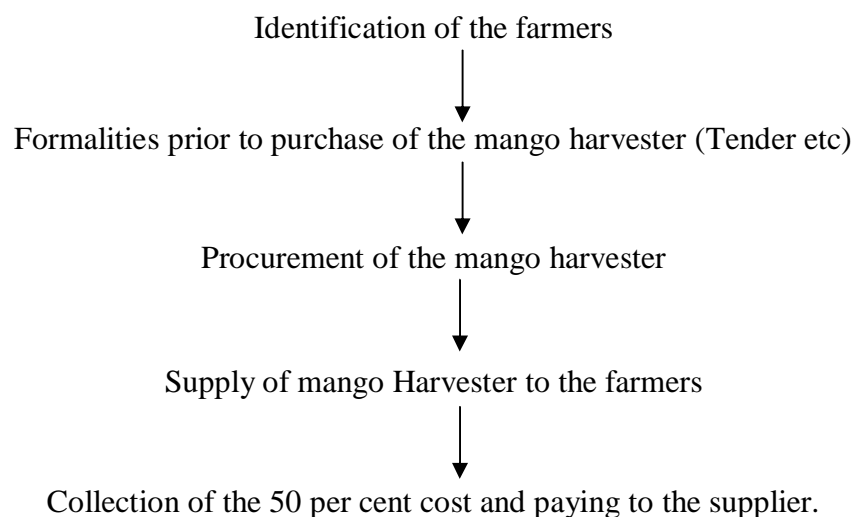
1. To minimize the losses during harvesting.
2. To prevent the storage loss and improving the shelf life and keeping quality.
3. Increasing the profit of the farmers.

**(v) Project Components**

Mango harvester.

**(vi) Project Cost and Financing**

Estimated cost of a Mango Harvester is Rs. 500/ no. It is proposed to supply the Mango Harvester to the needy farmers at 50per cent subsidy. 50per cent subsidy amount will be availed from NADP fund and the remaining 50per cent will be collected from the farmers and paid to the supplier.

**(vii) Implementation Chart****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

It is observed that damages are caused to the Mango fruits while harvesting. This results in deterioration in keeping quality and the consequent monetary loss to the farmers. Using this Mango harvester will prevent the damages to the fruits during harvesting and also facilitate in maintaining the quality. By marketing the fruits with desired qualities the farmers will get more profit.

**(x) Budget**

Unit cost Rs. 500 per No.

**Table 6.66 Supply of Mango Harvester****(Rs. in Lakhs)**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical (No.)</b>	<b>Full Cost</b>	<b>50 per cent subsidy amount</b>
1.	2008 – 09	71	0.355	0.1775
2.	2009 – 10	69	0.345	0.1725
3.	2010 – 11	69	0.345	0.1725
4.	2011 – 12	69	0.345	0.1725
	<b>Total</b>	<b>278</b>	<b>1.390</b>	<b>0.6950</b>

### **6.2.10 Establishment of Sales Outlet Points**

#### **(i) Background / Problem Focus**

There is no scheme available in the department for the counter sales / open sales of vegetable seeds. All the schemes implemented including the ongoing scheme – IHDS, involve identification of the farmers, **procurement** of the inputs and distribution to the farmers with subsidy, maintaining necessary records to each farmer. The vegetable seeds procured for this purpose cannot be sold to just any visiting / demanding farmers. Therefore there has been a complaint that the vegetable seeds are not made available by the department for open sales. For such as need, farmers depend upon the private dealers. This problem has been a limiting factor in the expansion of area and production of vegetables.

#### **(ii) Project Rationale**

By providing sales outlet points, farmers will be able to purchase good quality vegetable seeds in a nearby point, instead of visiting the seed production centers of the government. Easy access to good quality vegetable seeds will obviously enhance more area and production under vegetables.

#### **(iii) Project Strategy**

In order to operate sales outlet point, a building is necessary. Therefore it is proposed to hire a building in a location where the movement of the farmers is the

maximum like a Bus stand, Market etc. It is also proposed to purchase the necessary Furniture, seed storage boxes, Germination Test Trays, Digital weighing Scale, Name Board, Stock Position and Price List Boards, Stationery etc.

It is proposed to deploy the existing post of Asst. Agricultural Officer to manage the sales and for the maintenance of records. Procurement of the vegetable seeds will be the responsibility of the Deputy Director of Horticulture of the district. Money required for the procurement of vegetable seeds will be availed from the NADP Fund initially. The sale receipts will be rotated for the next purchases of the vegetable seeds. A separate Bank Account will be opened in the name of the DDH for this purpose. Some amount will be spent initially for making publicity about the presence of the sales outlets. Monthly verification of the stock will be the responsibility of the Assistant Director Horticulture of the O/o DDH. It will be the duty of the DDH to make at least 5 surprise inspections in a year.

Permanent sub-out let points will be opened in places like Uzhavar Santhais and temporary sub-outlet points will be operated at places like Exhibition Venues. Sale prices will be fixed by adding 20 per cent to the purchase cost in order to meet the handling charges, the loss on storage and handling of the seeds, etc.

#### **(iv) Project Goals**

1. To make easy access to the farmers for the purchase of vegetable seeds
2. To make available high quality vegetable seeds including hybrid seeds, which are produced by the government institutions, and are not readily available to the farmers in the districts.
3. To increase area under vegetables and production of vegetables.

#### **(v) Project Components**

1. Hiring a Building for the sales point
2. Purchase of the necessary furniture, equipment and other necessary materials
3. Procurement of seeds

**(vi) Project Cost and Financing - First Year (2008-2009)****Non recurring (for one sales outlet)**

Furniture, Equipments, Boards etc	-	1.10
Revolving fund for the procurement of vegetable seeds	-	0.50
Initial publicity and printing leaflets on the cultivation	-	0.20

**Recurring (for one sales out let)**

Rent for the Building for one year Rs.5000/- x 12	-	0.60
Miscellaneous	-	0.20

(Sweeping, Scavenger, Pest control, managing permanent / temporary sub-outlets etc.)

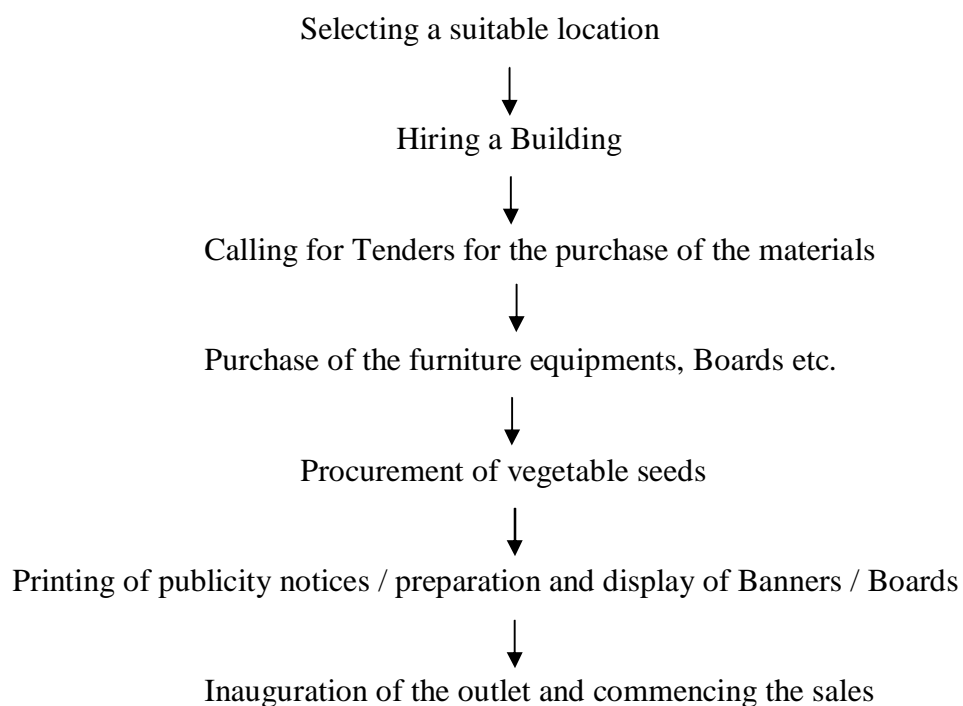
**Second year onwards: (2009-2010, 2010-2011, 2011-2012)****Recurring (for one sales out let)**

Rent for the Building for one year Rs.5000/- x 12	-	0.60
Printing Leaflets, Booklets on the cultivation of vegetables for Distribution to the buyers and public, purchase of stationery etc.	-	0.40
Miscellaneous expenses	-	0.20

(Sweeping, Scavenger, Pest control, managing permanent / temporary sub-outlets etc.)

The fund required will be availed in full from the NADP fund.

**1.20**

**(vii) Implementation Chart**

**(viii) Reporting**

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

**(ix) Abstract**

There is no scheme available in the Department of Horticulture for the open sales of vegetable seeds. Opening sales outlet points in the districts will enhance easy access to the farmers for purchasing good quality vegetable seeds, instead of going to the government production centers. It is proposed to rent a building, buy the necessary materials like furniture, Digital Weighing Scale etc., A revolving fund will be availed from NADP fund to purchase the vegetable seeds. Publicity will be made and leaflets / pamphlets / Booklets will be got printed and distributed to the buyers and the public.

**(x) Budget**

Unit cost 1<sup>st</sup> year - 2.60

2nd - 4th year - 1.20

**Table 6.67 Sales Outlet Points****(Rs. in lakhs)**

Sl No.	Year of Implementation	Physical (No. of sales outlet points to be opened)	Full Cost		
			Non-recurring	Recurring	Total
1.	2008 – 09	5	1.80 x 5 = 9.00	0.80 x 5 = 4.00	13.00
2.	2009 – 10	--	--	1.20 x 4 = 4.80	4.80
3.	2010 – 11	--	--	1.20 x 4 = 4.80	4.80
4.	2011 – 12	--	--	1.20 x 4 = 4.80	4.80
	<b>Total</b>	5	9.00	18.40	27.40

## **6.2. 11 District Level Farmers Workshop**

### **(i) Background**

Thiruvarur is one of the Cauvery Delta Districts. Paddy cultivation is followed by the farmers for centuries together. Of late, paddy cultivation has become unremunerative because of the increased cost of cultivation, low price, Cauvery water dispute and so on. Therefore farmers have been put to sufferings. Out of a total population of 1169474 Rural population is 9, 32,231 and Agricultural laborers 2, 86,033. Since paddy cultivation has become uneconomic, the Agricultural labour lose their livelihood and are gradually migrating. Moreover paddy is such a high water consuming crop that it consumes about 2000 to 5000 litres of water to produce 1 kg or Rice. Considering the forecasted future water crisis, taking precautionary steps will be wise.

### **(ii) Project Rationale**

In such a situation educating the farmers to go for alternate crops, especially horticulture crops, which are highly remunerative, will improve the economic status of the farmers in delta district.

### **(iii) Project Strategy**

It is essential to conduct a workshop for the farmers to transmit enough information on horticultural crops. Package of practices of different horticulture crops and their economics will be taught to the farmers. Bank officers will be involved in the workshop to explain the procedures in availing crop loans for cultivation of horticultural crops because horticultural crops require higher investment.

### **(iv) Project Goals**

1. Educating the farmers to take up more profitable and less water consuming horticultural crops.
2. To improve the economic status of the farmers in Delta District.
3. To overcome the problems created by poor rainfall and shortage of water received through irrigation canals. (Cauvery water issue)
4. To make advance arrangement considering the forecasted water scarcity in future years.



**(v) Project Components**

1. Publicity through News Papers and All India Radio
2. Organizing the workshop.

**(vi) Project Cost and Finance**

The estimated cost for conducting the District level workshop is Rupees 400/- per farmer per day. 200 farmers will be invited.

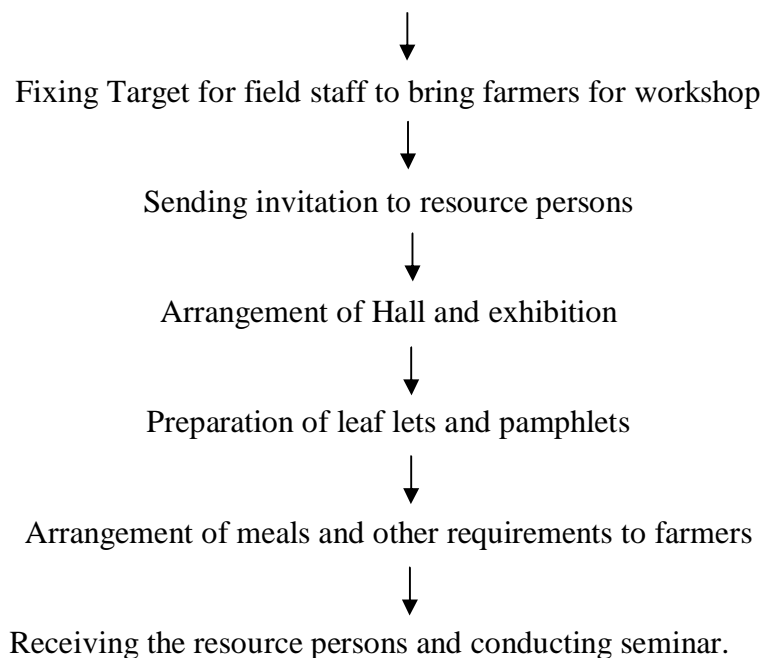
**Table 6.68 Split up details of the Project Cost**

<b>Sl.No.</b>	<b>Particulars</b>	<b>Cost / ha (Rs.)</b>
1.	Printing of invitation 250 nos. @ Rs 8/no.	2000
2.	Vehicle hire charges for publicity in villages and distribution of invitation letters and receiving the higher officials and public representatives 250 km per day for 2 days 250x2=500 km )(500x6.00)	3000
3.	Publicity Banners/ Boards @ Rs. 750/- per no for 4 nos (4x750.00)	3000
4.	Rent for private Hall for one day @ Rs. 12000	12000
5.	Hire charges for Public Address system for one day @ Rs. 2000	2000
6.	Purchase Tall Exhibitions Stands (Desks) (1220x610x760mm) @ Rs. 3000/- no for 4nos (4x3000.00)	12000
7.	Purchase at short Exhibition stands (61/2' x 11/4' x 11/2') @ Rs. 2250/- per No for 4 nos (4x2250.00)	9000
8.	Exhibition materials (Charts, Photos etc)	8.000
9.	Cost of the kits to be given to the farmers (Note Books, Pens, Technical manuals etc in a pouch) Rs. 40.00/no for 200 nos (200x40.00)	8000
10.	Cost of Tea, Snacks and Noon meals to participants @ Rs. 40.00/hand farmers for 200 (200x40.00)	8000
11.	Honorarium plus TA & DA for Resource persons @ Rs.500/-head for 4nos (500.00x4)	2000
12.	Expenses on Higher officials and public representatives	2000
13.	Cost of travel incurred by the farmers for attending the workshop @ Rs.40.00 per Farmer for 200 (200x40.00)	8000
14.	Miscellaneous expenses	1000
	<b>Total</b>	<b>80,000</b>

100 per cent Subsidy will be availed from NADP fund in advance.

**(vii) Implementation Chart**

Wide publicity about the District level workshop through News Papers, AIR

**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

Tiruvarur District is one of the Cauvery Delta Districts. Paddy cultivation has become unremunerative, because of water scarcity, increased cost of cultivation, low price etc. Huge water scarcity has been forecasted in the year 2015. So, it is essential to teach the farmers about alternate crops especially horticultural crops which are more remunerative and less water consuming, and more so with drip irrigation system. At this juncture conducting a district level workshop will enable the farmers to get full information on alternate crops especially horticultural crops. Horticultural crops require high investment and therefore Bankers will also be involved in this project. The cost in full will be availed from the NADP Fund.

**(x) Budget**

Rs. 400x200=80000/- split up details of the project cost.

**Table 6.69 District Level Farmers Workshop**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical No of workshop</b>	<b>Finance (100 per cent subsidy in lakhs)</b>
1.	2008 – 09	1	0.80
2.	2009 – 10	1	0.80
3.	2010 – 11	1	0.80
4.	2011 – 12	1	0.80
	<b>Total</b>	<b>4</b>	<b>3.20</b>

**6.2.12 Inter-State Exposure visit****(i) Background**

There are many research stations in other states, imparting innovative technologies to the farmers. Our farmers are unable to know the technologies. Some farmers may know the technologies, but only on the spot exposure will make their learning complete to the extent that they will develop confidence in taking up the technology. This lack of exposure keeps the farmers of this district below the potential economic status.

**(ii) Project Rationale**

When the farmers are exposed to the advanced technologies and success stories of the Research Stations and in other farmers' fields, they will develop confidence in taking up such technologies in their own fields. This will in turn increase their crop yields and their profit.

**Programme of Visit**

- First Day - Acharya N.G.Ranga Agricultural University (ANGRAU) Hyderabad, Andhrapradesh & Field Visits.
- Second Day - Central Institute of Medicinal and Aromatic Plants, Bangalore.  
University of Agricultural Sciences (UAS) Bangalore and Field visits.
- Third Day - Indian Institute of Horticultural Research, Bangalore. And Field Visits.
- Fourth Day - Central Food Technological Research Institute Mysore and Field Visits.
- Fifth Day - Kerala Agricultural University (KAU), Trichur  
Kerala Forest Research Institute, Peechi  
  
Central Tuber Crops Research Institute (CTCRI), Tiruvananthapuram and Field Visits.

**(iii) Project Strategy**

An exposure about the new technologies will be given to the farmers. They will visit the stations and meet the successful farmers in person and see the methods adopted in the fields and satisfy themselves to the extent of deciding to adopt the same in their fields also.

The places to be visited will be decided based on the requirement in this district. Those leading farmers will be selected who have the aptitude for the adoption of new technologies.

**(iv) Project Goals**

1. To expose the farmers to advanced technologies which are difficult / impossible for them to see so that they can adopt them.
2. To obtain full potentiality from the farmers fields.
3. To improve the economic status of the farmers.

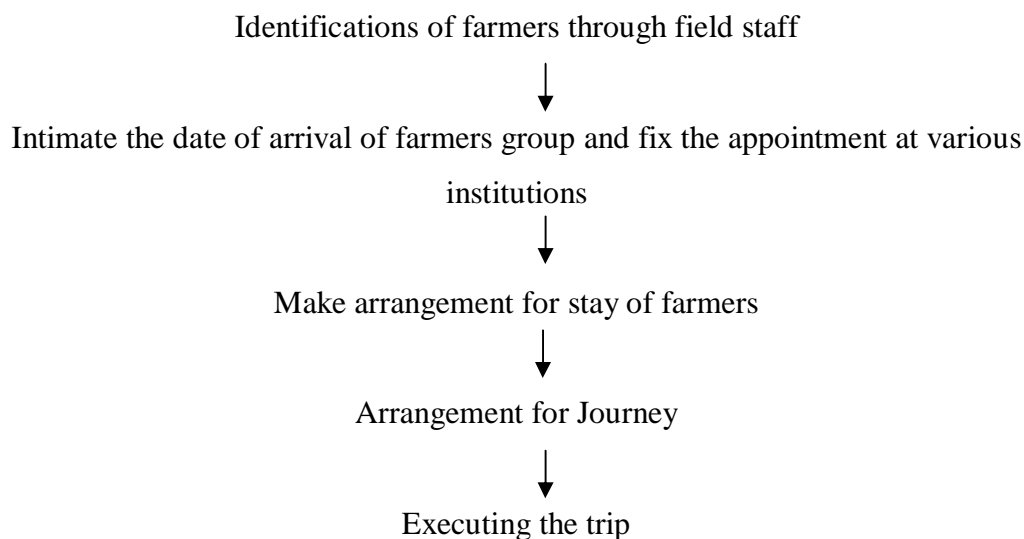
**(v) Project Components**

1. Selection of aspiring farmers having the aptitude for adopting new technologies.
2. Making arrangements for the journey.
3. Making arrangements with the Institutions etc. for organizing the exposure visit.
4. Organising the trip.

**(vi) Project Cost and Finance**

1. Contract Bus hire charges for 5 days @ Rs.8000/- per day (5x8000)	40,000
2. Fuel charges @ 8000/- per day for five days (5x8000)	40,000
3. Food, Refreshment charges for 5 days @ 150/- head per day (150x50x5)	37,500
4. Note Books, Pen etc @ Rs.150/- head (50x150)	7,500
5. Lodging expenses @ 150/- per head per day for 5 days (150x50x5)	37,500
6. Entrance charges to other states @ Rs.250/- head for a states for 3 states (250x50x3)	37,500
7. Parking charges for 5 days @ Rs.2000/- per day for 5 days (5x100)	10,000
8. Driver and Cleaner Bata @ Rs.200/- per head for 5 days (200x2x5)	2,000
9. Technical guide Book (50x100)	5,000
10. Incidental charges and other expenses @ Rs.2500/- per day for five days (5x2500)	12,500
11. Honorarium for resource persons at visiting spot @ Rs.2000/- per day for 5 days (5x2000)	10,000
12. Documentation expenses	3,000
13. Miscellaneous	7,500
<b>Total</b>	<b>2,50,000</b>

100 per cent assistance will be availed 100per cent from NADP fund in advance.

**(vii) Implementation Chart****(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

It is observed that our farmers lack in the knowledge of recent trends and technologies that are being practiced in other states. Some farmers may know these technologies, but only the spot exposure visit will enhance their learning ability for immediate adoption. Moreover they will develop confidence in taking up the technology. Lack of exposure visit keeps the farmers below the potential economic status. The places to be visited will be decided in advance based in the requirement of the district. Similarly the leading farmers who are having the aptitude for the adoption of new technologies will be selected for the visit to the research stations and fields of the successful farmers. They will motivate the other farmers to learn the new technologies well and adopt them in their fields. The entire cost for this exposure visit will be borne by the government through NADP funds.

**(x) Budget****Table 6.70 Interstate Exposure visit**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical in No. of farmers</b>	<b>Finance Rs.5000/ farmer 100per cent assistance (Rs. in lakhs)</b>
1.	2008 – 09	50	2.5
2.	2009 – 10	50	2.5
3.	2010 – 11	50	2.5
4.	2011 – 12	50	2.5
	<b>Total</b>	<b>200</b>	<b>10.0</b>

**6.2.13 Providing Fruits to the Children of the Government Children’s Centre (Anganwadi Centre)****(i) Background**

Children from poor families are admitted in the Children’s Centres (Anganwadi Centres). This project is proposed for these pre-school children of the age group of 2 years to 5 years. These centers are run by the Integrated Child Development Services (ICDS) of the Social Welfare Department of the Government of Tamil Nadu. Because of the poor background, these children are generally malnourished. Therefore attempt is made to provide nutritious meals to these children at the centers.

Vegetables are given along with Noon Meals. On Mondays, Wednesdays and Thursdays one egg each is given. On Tuesdays pulses – Horse gram / Green gram is given. On Fridays Potatoes are given. However Fruits are not given to these children. There are Block level Child Development Project Officers. There are Village Level Monitoring Committees under the Chairmanship of the village Presidents.

Block wise number of Centres and number of Children in Tiruvarur District are given below:

<b>Sl. No.</b>	<b>Name of the Block</b>	<b>No. of the Centres</b>	<b>No. of Children</b>
1.	Tiruvarur	74	2018
2.	Nannilam	109	2412
3.	Kudavasal	113	2920
4.	Valangaiman	100	2907
5.	Koradacherry	86	2259
6.	Needamangalam	105	2412
7.	Mannargudi	115	2558
8.	Muthupet	54	1165
9.	Kottur	95	2095
10.	Thiruthuraipoondi	88	2110
	<b>Total</b>	<b>939</b>	<b>22856</b>

#### **(ii) Project Rationale**

It is an established fact that Fruits form the essential component of our diet. Since Fruits provide nourishment, it improves the health of the children. Healthy children – Healthy Nation. Moreover this project will increase the demand of these fruits and area under these crops will increase considerably. This project will also help as procurement of fruits for an assured price.

#### **(iii) Project Strategy**

It is proposed to give every child Fruits (Banana, Amla etc.) once a week. Rs.2.00 is proposed per child per time. The Tamil Nadu Horticultural Producers Enterprise (TANHOPE), Chennai, a government of Tamil Nadu undertaking will be the implementing agency which will co-ordinate with the Officers of the ICDS. The Utilization will be monitored by the Officers of the department of horticulture in the Blocks, in co-ordination with the village level Monitoring Committees.

#### **(iv) Project Goals**

1. To provide nutritious food to the children and prevent malnourishment
2. To bring up healthy children so that the future will have healthy and energetic youth



3. To enhance the prosperity of our Nation
4. To increase area under fruits considerably

#### (v) Project Components

Assessment of the requirement of the fruits and fund monthwise

Procurement and supply of Fruits by TANHOPE, Chennai through Tender System

Monitoring

#### (vi) Project Cost and Financing

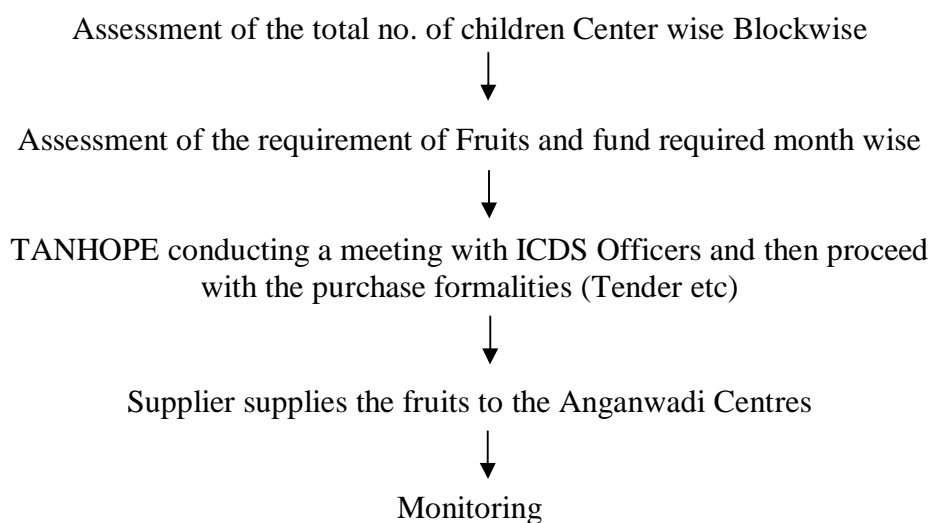
At the rate of Rs.2.00 per child per time, the proposed expenditure will be as follows.

**For one week  $22856 \times 2.00 = \text{Rs. } 45,712$**

**For 52 weeks  $\text{Rs.} 45712 \times 52 = \text{Rs.} 23,77,024$**

5per cent increase in number is anticipated every year. 100per cent subsidy will be availed from NADP fund.

#### (vii) Implementation Chart



**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

Malnourishment in children has been a problem faced by our society. Therefore it is proposed to provide fruits (Banana, Amla etc) once a week to the children of the Anganwadi Centres, run by the ICDS of the Social Welfare Department. Although attempt is made to provide nutritious food at these centers, fruits are not provided. There are 939 centres having 22856 children. The cost of fruits per child per time is proposed to be Rs.2.00. TANHOPE, Chennai will procure and supply the fruits direct to the centers in Co-ordination with the Officers of the ICDS. Monitoring of the utilization will be done by the Officers of the department of horticulture in the Blocks, in co-ordination with the village level monitoring committees.

This project will create healthy children. The demand for the fruits will increase and hence the area will increase. Farmers will get better prices.

**(x) Budget****Table 6.71. Providing Fruits to Anganwadi Children**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical (No. of Children)</b>	<b>Full cost (Rs. in lakhs)</b>	<b>100 per cent Subsidy (Rs. in lakhs)</b>
1.	2008 – 09	22856	23.77	23.77
2.	2009 – 10	24000	24.96	24.96
3.	2010 – 11	25200	26.21	26.21
4.	2011 – 12	26450	27.51	27.51
	<b>Total</b>	<b>98506</b>	<b>102.45</b>	<b>102.45</b>

### **6.2.14 10 Hectare Mega Demonstration Plot**

#### **(i) Background**

Since Tiruvarur is one of the Delta Districts, the farmers cultivate paddy crop predominantly, with the help of Rivers and canals. They are also cultivating horticulture crops in suitable locations. But the farmers are not exposed enough and experienced enough to follow the advanced technologies. Because of this, they are unable to reach their potential profit.

#### **(ii) Project Rationale**

Through this project the farmers themselves will be involved in the advanced methods of cultivation in their own fields. Since financial assistance is given, they will not have any imaginary fear of taking risks. They will develop enough confidence to go ahead in future. Moreover, this will serve as a demonstration for other farmers as well, thereby more farmers will go for advanced cultivation and the production of Horticulture crops and the economic status of the farmers will improve.

#### **(iii) Project Strategy**

Through field functionaries, a suitable location will be selected. The farmers will be informed about the importance of the mega demonstration plot and also the importance of cultivating horticulture crops. Mega demonstration plot will be laid out in the selected location. The erection works and the purchase of the materials will be done through tender system. The fields staff will meet the member farmers and provide the technical follow up.

It is proposed to layout the plot with the following components.

1.	Mango with normal spacing with inter-crops	-	2 ha
2.	Mango with hi-density planting	-	3 ha
3.	Amla orchard	-	1 ha
5.	Vegetables in 3 plots with 3 different crops rotations	-	3 ha
6.	Pandal vegetables	-	1 ha

The following infrastructure will be provided.

1.	Farm Building	-	1 No.
2.	Produce handling yard	-	1 no.
3.	Watchman shed	-	2 Nos.
4.	Tractor with Accessories	-	1 No.
5.	Power Weeder	-	1 No.
6.	Borewells with Accessories	-	2 Nos.
7.	Bared Wire Fencing	-	1300 Mt.

#### (iv) Project Goals

1. To convince the farmers of the advanced technologies
2. To motivate the farmers of the District.
3. To increase the area under horticulture crops
4. To increase the economic status of the farmers

#### (v) Project Components

1. Selection of suitable location for laying out the 10 hectare demonstration plot
2. Erection of the infrastructure and the purchase of the materials by the executive agency through tender system Technical follow up

#### (vi) Project Cost and Finance

The estimated cost of Rs.25 lakhs for each 10 ha demonstration plot per year will be availed from NADP fund as 100per cent subsidy.

<b>I. Cost of Infrastructure</b>	<b>Rs. in lakhs</b>
Construction of Farm house with Godown 20'x15'	- 1.80
Construction of product handling yard 20x20 metre	- 2.00
Construction of watchman shed	- 0.50
Tractor with all accessories	- 7.80
Power weeder	- 0.80
Erection of Borewell with all accessories and Borewell Room	2.0825
Barbed wire fencing for 1300 metre @ Rs.450/metre	- 5.85
<b>Total</b>	<b>- 20.8325</b>

## II. Cost of Cultivation

### Preparatory Works

1. Cost of ploughing, pulverizing and leveling of land for 10 ha.- 0.10
2. Cost of cultivating for 10 ha mango crop under high density planting (10x5 mtrs)

Mango graft cost 600x2	-	0.012
Pit digging 600x50	-	0.30
Fym with Red soil for 600 pits @ 10.00	-	0.06
Cost of cultivation of Mango with normal spacing		
With inter crop 2 ha		
Mango graft cost 200x50	-	0.10
Pit digging 200x50	-	0.10
Fym with Red soil for 200 pits @ 10.00	-	0.20
Inter cropping with vegetable crops	-	0.25
<b>Total</b>	-	<b>1.022</b>

### Cost of Amla orchard Cultivation

Amla graft 275 Nos. @ 30.00/No	-	0.0825
Pit digging 275 Nos @ 50.00/pit	-	0.1375
Fym with Red soil application for 275 pits @ 10.00/pit	-	0.2750
Inter cropping with vegetable crops	-	0.2500

**Total - 0.7450**

### Pandal for Vegetable Cultivation

1. Erection of Pandal	-	1.00
2. Cost of cultivation	-	0.66
<b>Total</b>	-	<b>1.66</b>

**Hybrid Vegetable Cultivation in Rotation – 3 ha.****Rotation No-1**

- (i) Crop-1 Brinjal
- (ii) Crop-2 Radish
- (iii) Crop-3 Chilli

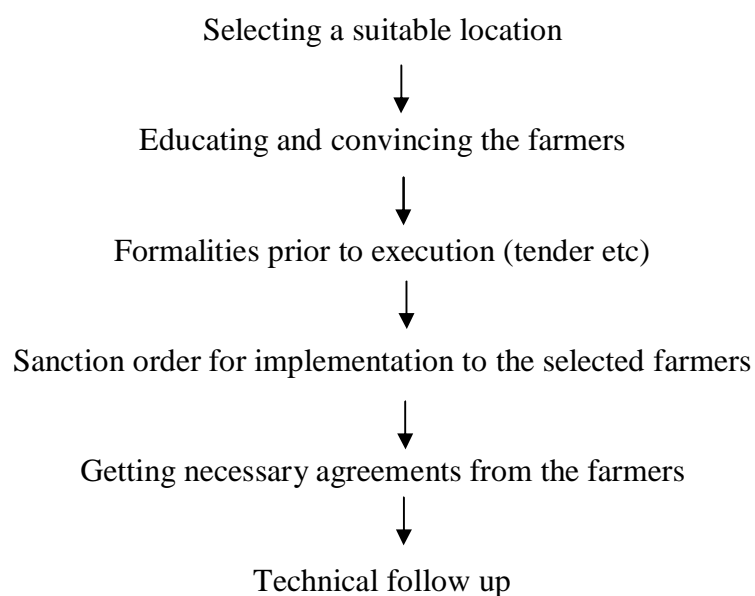
**Rotation No-2**

- (i) Crop-1 Bhendi
- (ii) Crop-2 Brinjal
- (iii) Crop-3 Cluster Bean

**Rotation No-3**

- (i) Crop-1 Chilli
- (ii) Crop-2 Brinjal
- (iii) Crop-3 Radish

Cost of vegetable seeds	-	0.64
Inter cultural operational cost	-	0.10
Post Harvest handling	-	0.10
<b>Total</b>	-	<b>0.84</b>
<b>Grand Total</b>	-	<b>25.00</b>

**(vii) Implementation Chart**

**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

It is observed that the farmers of this district cultivate paddy crops with the help of Rivers and canals in major area. They are also cultivating horticultural crops in suitable locations. But the farmers are not exposed enough and experienced enough to follow the advanced technologies. Through this project the farmers themselves will be involved in the advanced methods of cultivation in their own fields and the production of Horticulture crops and the economic status of the farmers will improve. It is proposed to provide necessary infrastructure, suitable cropping system and technical follow up. The estimated cost of Rs.25 lakhs for each 10 ha demonstration will be availed from the NADP fund as 100 per cent subsidy. So the farmer will be provided with 100per cent assistance for the implementation.

**(x) Budget****Table 6.72 Mega Demonstartion Plot****(Rs. in lakhs)**

Sl No.	Year of Implementation	Physical	Finance	
			Full cost	100 per cent subsidy amount
1.	2008 – 09	1	25.00	25.00
2.	2009 – 10	1	25.00	25.00
3.	2010 – 11	1	25.00	25.00
4.	2011 – 12	1	25.00	25.00
	<b>Total</b>	<b>4</b>	<b>100.00</b>	<b>100.00</b>

### **6.2.15 Providing Support for “Enterprising Farmers’ Associations”**

#### **(i) Background**

With reference to the district profile, it is known that the area under horticultural crops is very less in Tiruvarur district. There are only two crop having bulk area in single locations viz about 250 ha of Tapioca in Karvakurichi village area in Mannargudi Taluk and about 150 ha of Banana in Inamkiliyur village area in Valangaiman Taluk.

In Tapioca crop with an investment of Rs.37,000/- per ha, a profit of Rs.50000/- to Rs.70000/- is possible. In Banana crop with an investment of Rs.75000/- ha, a profit of Rs.75000/- to 1, 00,000/- is possible.

Because of lack of external support, these farmers have been losing their potential profit every year, and they are not encouraged to go for substantial expansion of area.

#### **(ii) Project Rationale**

One time external support will boost their enthusiasm. More farmers will come forward to grow the crop. Existing farmers will expand their area. The cost of cultivation and transport become reduced by providing Tractor with Trailer with “No Loss No Profit” hire charges. Provision of Revolving fund to meet their credit needs is a boon to them.

#### **(iii) Project Strategy**

Both the above mentioned Tapioca and Banana growers associations will be registered. The executive committee will have a President, a Secretary, a Joint Secretary, a Treasurer and 4 Member representatives (all are farmers). The Nodal Officer will be the District Officer of the Department of Horticulture, Tiruvarur.

One building each will be provided for the handling of the produces, with furniture and necessary equipments. Tractor / Power Tillers with accessories will be



provided and lent to the member farmers on “no profit no loss” hire charge basis. This will help the farmers save money and time. Moreover all operations including Inter culture, Transport and Harvest will be done efficiently.

Many farmers do not take up these crops because they do not have the money to invest. Many farmers have dues in primary co-operative Banks, and other Banks because they went for low profit giving crops like Paddy or they met with calamities. Therefore availing another crop loan is not possible as per rules. Therefore providing a Revolving fund to meet their credit needs will be a boon to them.

It is proposed to have a joint Bank account in the name of the association jointly operated by the Nodal Office, the Secretary and the Treasurer. Following norms are proposed.

1. Only poor farmers are selected
2. At least 25 per cent farmers must be those who are new to the crop. The full cost of cultivation is issued as loan
3. Loan amount for one year per farmer / ha will be Rs.37000/- for Tapioca and Rs.75000/- Banana.
4. One farmer will be eligible for a maximum of 0.5 ha only

The subsequent loans will be given to a farmer who has availed the loan, only after he has fully repaid the previous loan.

Monitoring officer and the loan sanctioning authority is the Nodal Officer (on recommendation from the Executive Committee).

The Loan will be sanctioned on pledging the land. Necessary documents will be taken from the borrower as decided by the Executive Committee.

Only 5 per cent interest per annum will be charged to meet the concerned expenditure including salary to a Manager and / or a Clerk.

Since the issue and recovery of the loans will be managed by the member farmers themselves, effective implementation is possible. District Collector will be the Patron.

#### (iv) Project Goals

1. To decrease the cost of cultivation and to increase the profit of the member farmers.
2. To bring more area under these crops.

#### (v) Project Components

1. Provide necessary infrastructure to the said farmers associations
2. Provide for a Revolving Fund

#### (vi) Project Cost and Financing

##### I) For Tapioca farmers Association (Rs. in lakhs)

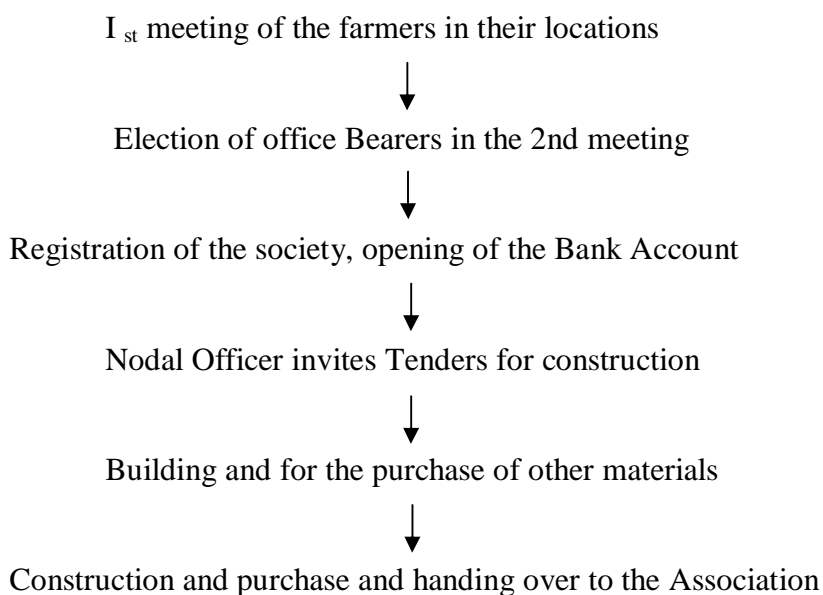
##### 1) Tapioca Tubers handling Unit

a)	Building 25x25=625 sq.ft. @ Rs.800/- sq.ft.	=	5.00
b)	Compound / Fencing and Gates	=	1.25
c)	Furniture	=	0.50
2)	Electronic weighing scale (300 kg capacity) – 1 No.	=	0.15
3)	Starch content Testing machine-1 No.	=	0.10
4)	Tractor-1 No.	=	5.00
a)	Rotary Tiller-1 No.	=	0.80
b)	Cultivator-1 No.	=	0.20
c)	Trailer (Dripper)-1 No.	=	1.60
d)	Tapioca Harvesters-2 Nos. @ Rs.20000/No	=	0.40
	Revolving fund for issuing crop Loans to the member farmers	=	10.00
	<b>Total</b>		<b>25.00</b>

**II) For Banana farmers Association****1) Fruits handling Unit**

a)	Building 25x25=625 sq.ft. @ Rs.800/- sq.ft.	=	5.00
b)	Furniture	=	0.50
c)	Electronic weighing scale-1 no. (300 kgs capacity)	=	0.15
2)	Power Tillers 5 Nos. @ Rs.1.25/no	=	6.25
3)	Trolleys for the transport of Bunches-2 Nos. @ Rs.25000/No	=	0.50
4)	Power Sprayer-1 No.	=	0.10
5)	Minidor (Auto type mini Lorry)	=	2.50
6)	Revolving fund for issuing crop Loans to the Member farmers	=	10.00
<b>Total</b>			<b>25.00</b>

The cost is fully availed from the NADP fund.

**(vii) Implementation Chart**

**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

The Area under horticulture in this district is very less. Only in 2 locations particular crops have bulk areas viz. Tapioca in Karuvakurichi area and Banana in Inamkiliyur area. The crop Associations will be registered. The Nodal Officer will be the DDH, Tiruvarur. With the estimated cost of Rs.25 lakhs to be availed from NADP Rs.15 lakhs each will be spent for infrastructure and Rs.10 lakhs each will be utilized as Revolving fund for the issue of the crop loans. With this project the cost of cultivation becomes reduced and more new farmers will come forward and area will expand because of the special and easy loan facility to be provided through a revolving fund. The loan sanctioning authority and the monitoring officer will be the DDH, Tiruvarur. District Collector will be the Patron of the associations.

**(x) Budget****Table 6.73 Enterprising Farmers Association****(Rs. in lakhs)**

Sl No.	Year of Implementation	Physical	Finance	
			Full cost	100 per cent subsidy amount
1.	2008 – 09	1	25.00	25.00
2.	2009 – 10	1	25.00	25.00
3.	2010 – 11	--	--	--
4.	2011 – 12	--	--	--
	<b>Total</b>	<b>2</b>	<b>50.00</b>	<b>50.00</b>

## **6.2.16 Providing Community Fencing to the Farmers in Selected Area**

### **(i) Background**

One of the main hurdles to the farmers who are interested in taking up horticultural crops is the damage done by cattle. In a State like Tamil Nadu where rearing cattle is one of the main means of livelihood, people cannot be asked to limit the cattle population. Total confinement of cattle is also not possible. In some places damages by wild animals are a problem.

Erecting Fence is costly. Live fences are not a permanent solution although they may be less costly. Moreover live fences require frequent maintenance and care, although they seem to be less costly initially. Barbed wire fencing for an acre costs about 1 lakh. Because of this farmers do not take up horticultural crops even in highly potential areas. Consequently there has been a huge hidden loss for the farmers and for the country.

### **(ii) Project Rationale**

With community fencing the cost per unit area becomes highly reduced, because for a particular farmer of the community the full periphery of his field need not be fenced. This project will serve as a demonstration and other farmers will take up such a project on their own, consequently huge areas will come under horticulture.

### **(iii) Project Strategy**

A potential compact area of 10-20 ha. having atleast 10-20 farmers, will be selected. A village meeting will be conducted for the farmers involved. They will be explained the advantages of the project and convinced to bear the 50per cent of the cost. Letters of willingness will be collected from the member farmers, and then the process of execution will be commenced.

**(iv) Project Goals**

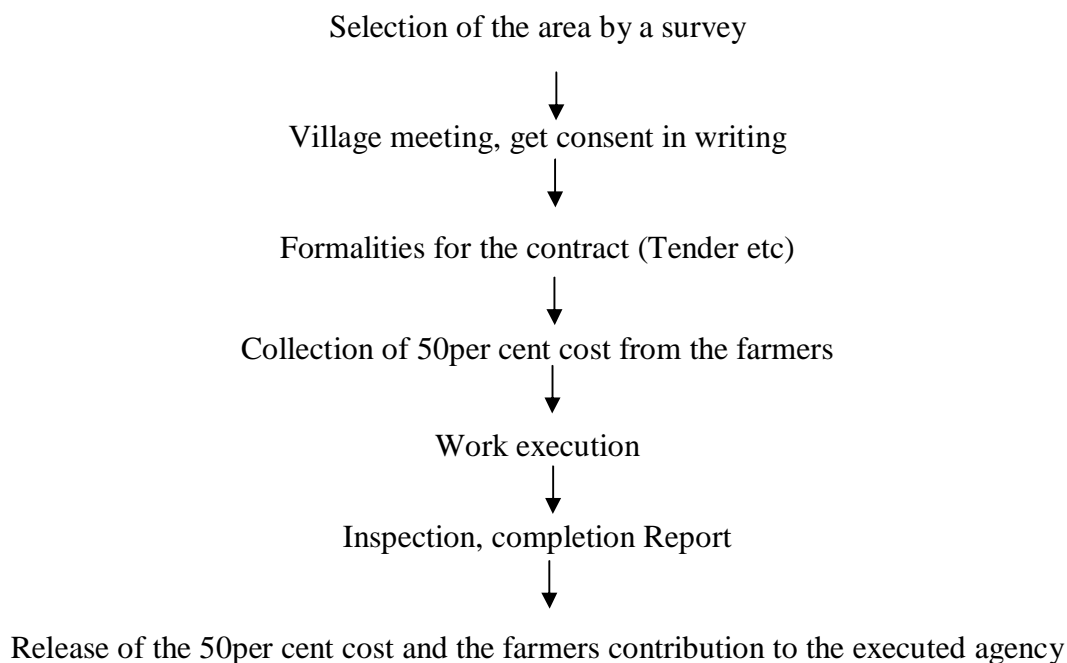
- To encourage farmers to expand more area under Horticulture
- To improve the economic status of the farmers
- To improve the per capita consumption of nutritious vegetables and fruits.
- To tap the potential productivity of areas lying vacant or underutilized.

**(v) Project Components**

Tenders will be called for, to quote the cost of erection per unit length e.g., per metre and the erection will be executed on contract basis.

**(vi) Project Cost & Financing**

The execution will be made on contract basis through tender. The cost quoted will be divided among farmers depending on the area owned by the farmers. The 50 per cent of the cost will be collected from the farmers in advance in the form of Demand Draft favouring the executing agency and will be handed over to the agency on completion of the work, along with the 50 per cent cost availed from the fund of NADP.

**(vii) Implementation Chart**

**(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

Cattle damage and damage due to wild animals are the problems preventing the aspiring farmers to take up horticulture. The cost of fencing is a major problem. Community fencing will reduce highly the cost per member farmer as the full periphery of the lands of individual farmers need not be fenced. 50 per cent cost will be paid to the executing agency on completion of the work. With this project as a demonstration, huge areas will come under horticulture.

**(x) Budget**

For the preparation of the Budget, the field size is assumed to be 400x250 mt. for 10 ha, and 500x400 mt. for 20 ha. The cost per metre length is estimated to be Rs.450/- for the following specification.

Stone pillars of 7' height  
7' gap pillar to pillar  
2 support pillars for every 10th pillar  
Tata steel Barbed wire of 14/14 gauge  
8 horizontal Barbed wire line  
Vertical wire lines every ¾'

**Table 6.74 Community Fencing**

Sl No.	Year of Implementation	Physical	Length of the fence to be erected in mt.	(Rs. in lakhs)	
				Full cost for 20 ha	50 per cent subsidy 20 ha
1.	2008 – 09	10-20 Ha.	1300-1800	8.10	4.05
2.	2009 – 10	10-20 Ha.	1300-1800	8.10	4.05
3.	2010 – 11	10-20 Ha.	1300-1800	8.10	4.05
4.	2011 – 12	10-20 Ha.	1300-1800	8.10	4.05
	<b>Total</b>	<b>40-80 Ha.</b>	<b>32.40</b>	<b>16.20</b>	

### 6.2.17 Providing Financial Support for Small and Marginal Betelvine Farmers

#### (i) Background

Betelvine crop is grown in an area of about 25 Ha in Tiruvarur district. The age of the crops is 3 years. This crop requires high investment of about 5.00 lakhs / ha for 3 years. It fetches a profit of about 5 lakhs / ha in three years.

Although there is good average profit of about Rs.1.60 lakhs / ha per year, because of the high investment more farmers are unable to take up this crop. The farmers in the area, surrounding the Betelvine crop area, are cultivating mainly paddy crop, which fetches a profit of only Rs.15000/- to 25000/- per ha.

#### (ii) Project Rationale

By providing financial support to the farmers, it is possible to bring more area under Betelvine. The farmers, who cannot afford to go for Betelvine cultivation hitherto, will be encouraged, and their economic status will improve.

#### (iii) Project Strategy

Since farmers grow Betelvine crop in small areas unit area per farmer for giving subsidy is proposed to be 20 cents. (0.081 ha). The following is the expenditure and income pattern in Betelvine crop for 20 cents.

<b>Year of Cultivation</b>	<b>Expenditure (Rs)</b>	<b>Income (Rs.)</b>	<b>Profit</b>
1st year	10680	200	Nil
2nd year	21020	23560	2540
3rd year	15860	62640	46780
Total	47560	86400	49320

For the scheme purpose, the project cost is taken as 40000/-. It is proposed to give 50per cent subsidy to the farmer. From the above table it is known that there is



sufficient income in the third year. Therefore it is proposed to give 50per cent of the 50per cent subsidy i.e., Rs.10000 soon after planting in the first year of the crop, and remaining 50per cent will be given in the beginning of the 2<sup>nd</sup> year of the crop. Only small and marginal farmers will be selected.

#### (iv) Project Goals

1. To give livelihood to poor farmer who could not venture into Betel vine cultivation hitherto
2. To provide job opportunities to the landless laborers.

#### (v) Project Components

- a. Identification of the farmers.
- b. Educating them on the package of practices
- c. Land preparation & planting by farmers themselves.
- d. Release of subsidy

#### (vi) Project Cost and Financing

**Table 6.75 Cost for 20 cents Betelvine**

Sl No.	Details	1st Year	II nd Year	III rd year	Total
1.	Cost of ploughing, leveling and digging trenches	1,350	--	--	1,350
2.	Cost of labour for leveling the dug soil of the trenches and cost of 4 kgs. of Sesbania seeds for the planting which serve as live stakes and cost of labour for sowing. Seeds 4 kgs x 120.00 = 480.00 Cost of Labour 5 x80.00 = 400.00	880	--	--	880
3.	Cost of 20 nos of Banana Suckers and cost of labour for planting (20x5)	100	--	--	100
4.	Cost of labour for weeding on 15th, 30th, 45th, 60th, 135th and 150th days 15 labourers @ 50.00 (15x50.00)	750	--	--	750

Table 6.75 Contd...

Sl No.	Details	1st Year	II nd Year	III rd year	Total
5.	Cost of Management of pests and diseases on Sesbania plants	1000	--	--	1000
6.	Cost of Farmyard manure and the cost of labour for application in the field	1000	--	--	1000
7.	Cost of vine cuttings 6000 cuttings i.e. 25 Bundles (240 nos / bundle) @ Rs .80/- per Bundle (25x80.00)	2000	--	--	2000
8.	Cost of labour for planting of the cuttings – 10 labourers @ Rs.80/- per head (10x80.00)	800	--	--	800
9.	Cost of labour for maintenance particularly to train the vines to climb on Sesbania plants 30 labourers @ Rs.80/- per head (30x80.00)	1200	800	400	2400
10.	Cost of labour for watering @ Rs.80/- per head for 10 labourers (60x8.00)	1600	1600	1600	4800
11.	Erection of supports structure : a) Cost of Eucalyptus Poles for supports structure 1.2 tons for 20 cents @ Rs.2300/- per ton for 1.2 tons (1.2x2300) b) Cost of Coconut leaf stalks 3000 nos. for 20 cents @ 0.50 per no. for 3000 nos. (3000x0.50) c) Cost of coir ropes etc. d) Cost of labour for the erection of the support structure @ Rs.120/- per head for 28 labourers (28x120.00)	--	2760	--	2760
		--	1500	--	1500
		--	1300	--	1300
		--	3360	--	3360
12.	Cost of labour for separation of vine cuttings for sales as seed vine @ Rs.80/- per head for 36 labourers (36x80.00)	--	2880	--	2880
13.	Cost of labour for training the side vines @ Rs.80/- per head for 12 labourers (12x80.00)	--	960	--	960

**Table 6.75 Contd...**

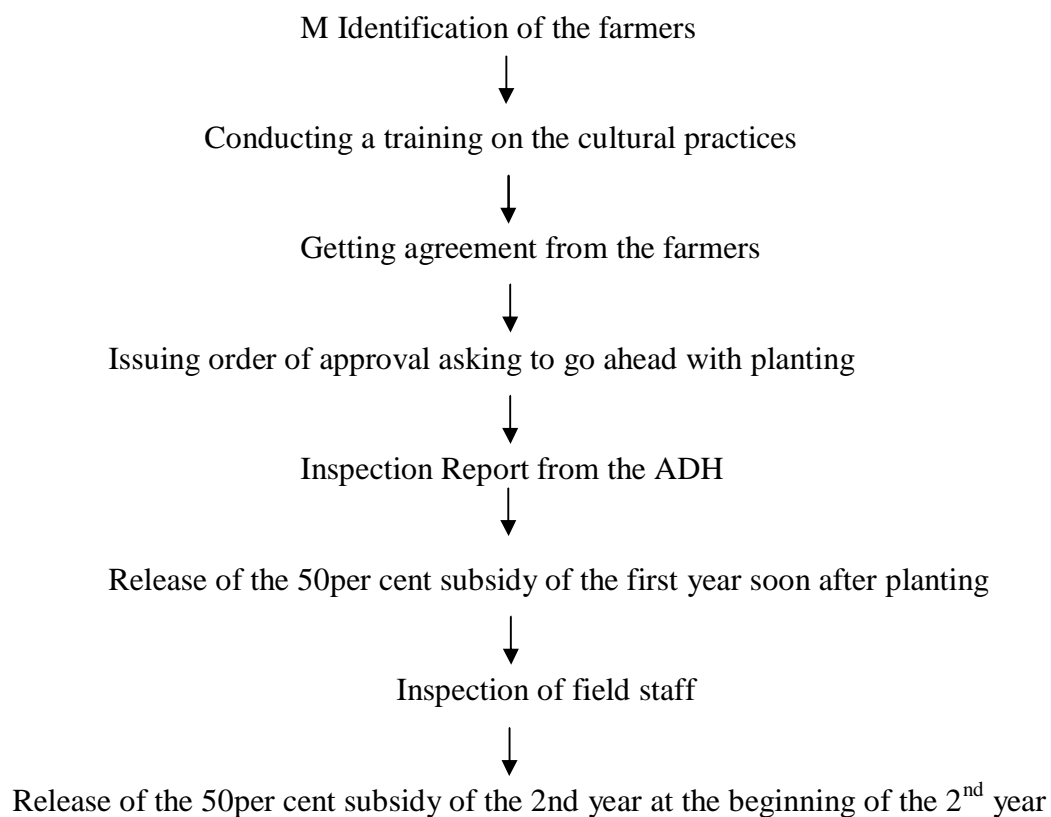
Sl No.	Details	1st Year	II nd Year	III rd year	Total
14.	Cost of labour for harvesting of betelvine leaves 21 times @ Rs.25/- per bundle for 640 bundles (640x25.00)	--	4500	11500	16000
15.	Cost of labour for training the vines after the harvest of the betelvine leaves @ Rs.80/- per head for 24 labourers (24x80.00)	--	560	1360	1920
16.	Cost of labour for the removal of crop residues and cleaning the field for next crop	--	--	1000	1000
17.	Other cultural operations	--	800	--	800
	<b>Total</b>	<b>10680</b>	<b>21020</b>	<b>15860</b>	<b>47560</b>

**Table 6.76 Income from 20 cents (0.081 ha) in 3 years**

Sl No.	Details	1st Year	II nd Year	III rd year	Total
1.	By the sale of sesbania greens	200	--	--	200
2.	By the sale of vine cuttings	--	5400	--	5400
3.	By the sale of betelvine leaves 640 Bundles @ Rs.120/- per bundle for 640 bundles (640x120.00)	--	17160	59640	76800
4.	By the sale of sesbania trees and staking stems at the end of the crop period	--	--	3000	3000
5.	By the sale of Banana Bunches from the mixed crop of Banana	--	1000	--	1000
	<b>Total</b>	<b>200</b>	<b>23560</b>	<b>62640</b>	<b>86400</b>

Total income	-	Rs. 86,400.00
Total Expenditure	-	Rs. 47,560.00
Net Profit in three years	-	<u>Rs.38, 840.00</u>
Profit per year from 20 cents	-	Rs. 12,947.00
Average profit per year from 1 Acre	-	Rs. 65,000.00
Average profit per year from 1 hectare	-	Rs. 1, 60,000.00

### (vii) Implementation Chart



### (viii) Reporting

Monthly progress reports will be sent to the nodal Officer-the Director, CARDS, TNAU, marking copies to the Head of the Department.

**(ix) Abstract**

Betel vine crop is grown in a small area of about 25 ha in Tiruvarur district. The age of the crop is 3 years. The average profit per ha per year works out to be Rs.1.60 lakhs. Although the crop is highly profitable, poor farmers of this district are unable to enjoy the profit of it because of the high investment. By providing 50 per cent subsidy on the cost of cultivation, the farmers will be encouraged to go for Betelvine cultivation. Area will increase, and the economic status of the farmers will improve.

**(x) Budget**

Unit cost for 20 cents (0.081 Ha)

First year – Rs. 10,000

Second year – Rs. 17,000

Third year – Rs. 13,000

**Total - Rs. 40,000**

**Table 6.77 Cost for Betelvine Cultivation**

**(Rs. in Lakhs)**

Sl No.	Year of Implementation	No of unit	Unit cost (Rs. in Lakhs)	Full cost	50 per cent Subsidy pattern proposed
1.	2008 – 09	48	0.40	19.20	9.60
2.	2009 – 10	6	0.40	2.40	1.20
3.	2010 – 11	6	0.40	2.40	1.20
4.	2011 – 12	6	0.40	2.40	1.20
	<b>Grand Total</b>	<b>66</b>	<b>0.40</b>	<b>26.40</b>	<b>13.20</b>

### **6.2.18 Support for Cultivating Vasambu (Sweet Flag)**

#### **(i) Background**

Tiruvarur District is one of the Cauvery River Delta Districts. Major cultivated area is under Paddy crop. Major Paddy area being low lying and clayey, shifting to an alternate crop has been a problem. Paddy crop being unremunerative, farmers and agricultural labourers have been suffering.

#### **(ii) Project Rationale**

A medicinal crop *Acorus calamus* called sweet flag in English and Vasambu in Tamil performs well in paddy growing conditions. Therefore this crop was first introduced in this district through the centrally sponsored scheme on medicinal plants by the department of Horticulture. With good extension work thereafter, the crop area has been slowly expanding. The age of the crop is 10-12 months. Paddy crop fetches a profit of about Rs.15000/- to Rs.25000/- per ha. Whereas Vasambu crop fetches a profit of about Rs.75000/- to 1 lakh per ha. But an investment of about Rs.50000/- per ha per year is required. Therefore farmers of this district who are economically affected already find it difficult to invest this much. Hence this project to provide support.

#### **(iii) Project Strategy**

Farmers will prepare the land and procure the seed Rhizomes themselves and plant them in their fields. On production of a claim by the farmer for the expenditures made on Land preparation, seed Rhizomes and planting, recommended by the concerned Assistant Director of Horticulture, the 50 per cent subsidy of the total expenditure Rs.25000/- will be released to the farmer from the NADP fund. By doing so the poor farmers will be able to purchase the seed rhizomes on credit and pay the full amount to the supplier on receipt from the District Officer. This way, to start with, farmers will neither have to invest their own money nor to seek loan from the Banks. For the remaining expenditures from Sl. No. 4 to 9 they can take time to find their own money or seek for Bank Loan. 50 per cent subsidy Rs.25000/- will be released to the farmer in the form of cheque soon after planting.

**(iv) Project Goals**

1. To replace paddy a low remunerative crop with Vasambu a high profit giving crop
2. To improve the economic status of the farmers
3. To provide job opportunities for agricultural labourers
4. To save water, because vasambu consumes less water as compared to paddy.

**(v) Project Components**

Identification of farmers

Conducting a district level workshop and creating awareness

Farmers are advised to take up planting

Release of subsidy after planting

**(vi) Project Cost and Financing**

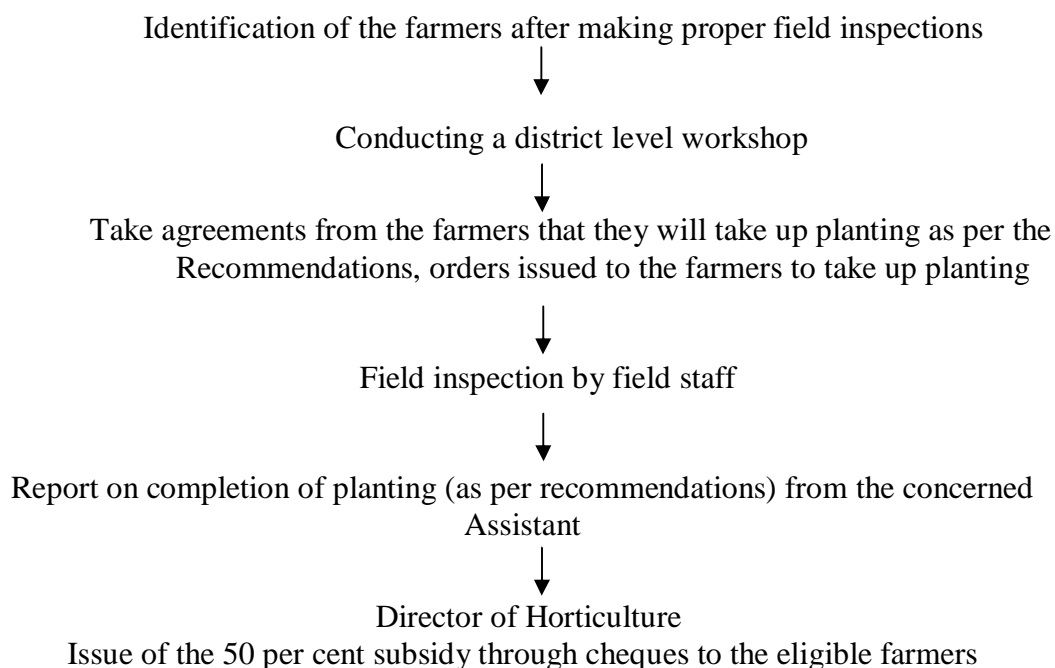
<b>S.No.</b>	<b>Particulars</b>	<b>Cost / ha (Rs.)</b>
1.	Land preparation	2500
2.	Cost of seed Rhizomes for the spacing of 45cmx45cm 50000 nos x Rs.0.45	22500
3.	Planting-25 labourers	1250
4.	Mannuring	5000
5.	Irrigation	1250
6.	Weeding-75 labourers	3750
7.	Harvesting (by Tractor)	1250
8.	Manual collection, cleaning and drying-150 labourers	7500
9.	Polishing of Rhizomes	5000
	<b>Total</b>	<b>50,000</b>

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Yield per ha	-	7500 Kg.
Price per Kg	-	Rs.20/-
Total income	-	1, 50,000
Expenditure	-	50,000
Profit / ha	-	1, 00,000

50 per cent subsidy Rs.25000/- will be released to the farmer in the form of Cheque soon after planting.

#### **(vii) Implementation Chart**



#### **(viii) Reporting**

Monthly progress reports will be sent to the Nodal Officer - the Director, CARDS, TNAU, marking copies to the Head of the Department.



**(ix) Abstract**

Tiruvarur District is one of the Cauvery Delta Districts. The major area is under paddy. In the low, water logging and clayey land areas found in many places, finding an alternate crop is a problem. Vasambu (*Acorus Calamus*) a medicinal crop is suited to such areas and is 4-5 times more profitable than Rice crop. Therefore it is proposed to support the cultivation of Vasambu by providing 50per cent subsidy of the total cost of cultivation to the farmers soon after planting, so that the farmers can avail the seed Rhizomes on credit from the supplier and they don't have to seek Bank Loans. This project will improve the economic status of the farmers who have been struggling for livelihood due to the problems faced by growing paddy crop.

**(x) Budget****Table 6.78 Vasambu Cultivation Cost****(Rs. in lakhs)**

<b>Sl No.</b>	<b>Year of Implementation</b>	<b>Physical (ha)</b>	<b>Full cost</b>	<b>50 per cent + Subsidy</b>
1.	2008 – 09	32	12.80	6.40
2.	2009 – 10	32	12.80	6.40
3.	2010 – 11	32	12.80	6.40
4.	2011 – 12	32	12.80	6.40
	<b>Total</b>	<b>128</b>	<b>51.2</b>	<b>25.6</b>



Table 6.79. Contd...

Sl. No	Project Proposal No	Activities	Unit cost	2008-09		2009-10		2010-2011		2011-12	
				Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
11.	7.	Erection of net for production of disease free planting material of Tapioca	Rs. 1.00 /lakh/ 300sq.m	-	-	--	--	--	--	--	--
12.		Grapes bird net	Rs. 1.00 lakh/ha	--	--	--	--	--	--	--	--
13.		Tractor mounted steam boiler	Rs. 50,000 /No	--	--	--	--	--	--	--	--
14.	8.	Support system for crops									
		a. Banana	Rs. 1.5lakhs/ha	18	13.50	16	18.00	16	18.00	16	18.00
		b. Gloriosa	Rs. 40,000 /ha	--	--	--	--	--	--	--	--
15.	9.	Banana Corm injector	Rs. 300 /No.	86	0.129	86	0.129	86	0.129	6	0.009
16.	10.	Mango harvester	Rs. 500 /No	71	0.1775	69	0.1725	69	0.1725	69	0.1725
17.	11.	Sales outlet points in districts (Rent and infrastructure)	Rs. 2.60 lakhs / No	5	13.00	--	4.800	--	4.800	--	4.800
18.	12.	District Level Farmers Workshop	Rs. 400 /farmer/ day	1/200	0.800	1/200	0.800	1/200	0.800	1/200	0.800
19.	13.	Inter State Exposure visit (5 days)	Rs. 5,000 / farmer.	1/50	2.500	1/50	2.500	1/50	2.500	1/50	2.500
20.	14.	Fruits in noon meal scheme (TANHOPE)	Rs. 50,000 / group/ district	22856	23.770	2400	24.96	25200	26.21	26450	27.51

Table 6.79. Contd...

Sl. No	Project Proposal No	Activities	Unit cost	2008-09		2009-10		2010-2011		2011-12	
				Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
21.	15.	10 hectare mega demo plot for the districts	Rs. 25.00 lakhs each	1	25.000	1	25.000	1	25.000	1	25.000
22.	16.	Enterprising framers associations	Rs. 25.00lakhs each	1	25.000	1	25.000	--	--	--	--
23.	17.	Community fencing		1	4.05	1	4.05	1	4.05	1	4.05
24.	18.	Support for the Betelvine	Rs. 40,000 for 20 cents	48	9.6	6	1.20	6	1.20	6	1.20
25.		Support for senna cultivation	Rs. 15,000/Ha	--	--	--	--	--	--	--	--
26.	19.	Support for Vasambu cultivation	Rs. 40,000/Ha	32	6.4	32	6.4	32	6.4	32	6.4
		<b>Total</b>			<b>131.47</b>		<b>119.95</b>		<b>96.18</b>		<b>97.39</b>

Note:

**Financial**

Sl.No – 14 a -75 per cent of the cost

Sl.No – 18, 19,20,21,22 -100 per cent of the cost

Others – 50 per cent of the cost

**Abstract****Table 6.80 Horticulture – Budget Abstract for Four Years – 2008 - 2012**

S.No	Year of implementation	Total budget in lakhs
1.	2008-2009	123.9265
2	2009-2010	113.0115
3	2010-2011	89.2615
4	2011-2012	90.4415
	<b>Total</b>	<b>416.641</b>

**6.3 Animal Husbandry****I Feed and Fodder development**

**Incentives for fodder cultivation and mechanization - supply of mineral mixture- bye pass protein-fodder enrichment- Establishment of 6 x 6 x 4 feet silo to ensile sugarcane tops –paddy straw block making.**

**Abstract**

- Proving quality seed materials for fodder cultivation/incentives for cultivation
- Supply of good quality drinking water to livestock in severely affected areas.
- Fodder cultivation is to be developed in the region. Low quality fodder/alternate fodder resources should be enriched to meet the protein demand.
- Providing good quality animals through concerted efforts by the agencies
- Supply of chaff cutters/mineral mixtures/enrichment of fodder resources

**Budget****Feed and Fodder development:-Incentives for fodder cultivation / mechanization  
- supply of mineral mixture- bye pass protein-fodder enrichment**

<b>Sl. No.</b>	<b>Details</b>	<b>Amount Rs. In lakhs</b>
1.	Perennial fodder production 10 acre / block with training component (DAH)	25.85
2.	Fodder development at District Livestock Farm Korukkai (DAH)	106.27
3.	Popularizing mineral mixture to improve livestock production (DAH) @ 1kg/month for one year	24.00
4.	Popularizing chaff cutter for SHG (DAH)	4.00
5.	Establishment of 6 x 6 x 4 feet silo to ensile sugarcane tops (DAH) (75% Subsidy)	4.50
6.	Supply of mineral mixture to the milch animals at subsidised cost (50%) @ 18 Kg/year (DDD)	25.00
7.	Supply of by-pass protein feed to the milch animals (360kgs/year/animal @ 50% subsidised cost of Rs.9/- per kg) (DDD)	52.80
8.	Chaff cutters for IDF villages on community basis (Mechanised) (DDD)	5.60
9.	Fodder development activities (500 acres in 100 IDF villages in IDF villages and in farmers field (DDD)	11.75
10.	Paddy straw block making (TANUVAS) demonstration unit	7.00
	<b>Total</b>	<b>266.77</b>

**Background / Problem Focus**

Human and livestock population should be managed to reduce the pressure on fragile ecosystem. Popularising the improved agronomic practices to maximize the crop yield per raindrop. Integrated watershed management for efficient management of land and water resources should be given top priority. Appropriate land use planning discouraging water intensive crops, encouraging sprinkler and drip irrigation

systems, and practicing alternate land use such as agro-forestry, agro-horticulture and silvi-pasture would provide long-term drought proofing incorporating livestock wherever possible as only livestock rearing can give regular revenue for livelihood. The green fodder availability is restricted to selected areas and seasons. Rapid urbanisation has led to shrinking of grazing lands. Moreover, with the increasing pressure on land for growing food grains, oil seeds and pulses and diversified use of agriculture residues, the gap between the demand and supply of fodder is increasing.

### **Project Rationale**

Dairy cattle rearing is an important subsidiary occupation for the farmers of Tamilnadu. Milk production and profit in dairy farming depends upon feeding and management practices. During the recent years, prices of various feed ingredients like groundnut cake, wheat bran, maize etc., have increased which is a major constraint for profitable milk production. Feeding natural grasses and green fodder will help to reduce the expenditure on concentrate feeding. Green grass is a good source of vitamin A which is present in the form of carotene. One kg of green grass provides 50mg of vitamin A. This vitamin is necessary to maintain the health and reproduce status of the animal. Grasses are also good source of protein. One kg of green fodder gives 15 to 20g protein to the animal. Cowpea, beans, subabul leaves etc. give 30 to 40g of protein. Balanced feeding is essential to fully exploit the genetic potential of livestock. In the State, fodder production is still deemed ancillary to agricultural production. Crop residues mainly sorghum and paddy straws that are poor in nutritive value constitute the major fodder for livestock. The effects of better breeding and management can happen if the animals are properly fed. Better feeding alone can bring about an increase of 30% in milk production.

### **Project Strategy**

Livestock when fed with green fodder tend to waste a lot of these precious feed. Further the utilization of the fodder (both green fodder & dry fodder) is enhanced and the feed conversion efficiency increases when the fodder is chopped and fed. Hence it is proposed to provide chaff cutters that will chop the fodder there by reducing wastage. The Shortage of green fodder is estimated to be 80 per cent

and dry fodder 50 per cent, even under normal conditions. One Chaff cutter will be provided to one Self Help Group in each block. The SHG to be provided with the chaff cutter will be identified by the District Administration. The Chaff cutter that is provided will be operated manually with provision for mechanizing the same if necessary in future. The main objective of the project is to develop rearing of livestock as a major livelihood opportunity. Farmers' exposure to modern and scientific animal rearing is rather limited. The project will adopt the strategy of rural poor combining traditional methods of livestock rearing and modern inputs.

### **Project Goals**

- Awareness creation
- Group mobilisation and motivation
- Capacity building for seeds / mechanisation
- Promotion of cultivation of fodder

### **Project Components**

#### **Mechanization of fodder component**

- Chaff cutters for IDF villages on community basis (Mechanised) (DDD)
- Popularizing chaff cutter for SHGs (DAH)

#### **Fodder development activities / technology transfer**

- Fodder development activities (IDF villages & in farmers field (DDD)
- Fodder development at District Livestock farm Korukkai (DAH)
- Fodder production by SHGs @10 acre/B1 (DAH) -11 blocks

#### **Technology transfer**

- Establishing of 6 x 6 x 4 feet silo to ensile sugarcane tops (DAH) (75% subsidy)
- Paddy straw block making demonstration unit (TANUVAS)



**Supply of Inputs for Livestock**

- Popularizing mineral mixture to improve livestock production (DAH) @ 1kg/month for one year
- Supply of by-pass protein feed to the milch animals (360kgs/ year/animal @ 50% subsidized cost of Rs.9/- per kg) (DDD)
- Supply of mineral mixture to the milch animals at subsidised cost (50%) @ 18 Kg/year (DDD)

**Project cost and financing (Rs. in Lakhs)**

Project Title	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand Total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
Perennial fodder production 10 acre / block with training component (DAH)	0.235	110	25.85	--	--	--	--	--	--	110	25.85
Fodder development at District Livestock Farm Korukkai (DAH)	--	--	106.27	--	--	--	--	--	--	--	106.27
Popularizing mineral mixture to improve livestock production (DAH) @ 1kg/month for one year	0.006	1000	6.00	1000	6.00	1000	6.00	1000	6.00	4000	24.00
Popularizing chaff cutter for SHG (DAH)	0.1	10	1.00	10	1.00	10	1.00	10	1.00	40	4.00
Establishment of 6 x 6 x 4 feet silo to ensile sugarcane tops (DAH) (75% Subsidy)	0.1125	10	1.13	10	1.13	10	1.13	10	1.13	40	4.50
Supply of mineral mixture to the	0.005	1250	6.25	1250	6.25	1250	6.25	1250	6.25	5000	25.00

milch animals at subsidised cost (50% ) @ 18 kg/ year (DDD)											
Supply of by-pass protein feed to the milch animals (360kgs/ year/ animal @ 50% subsidised cost of Rs.9/- per kg.) (DDD)	0.033	400	13.20	400	13.20	400	13.20	400	13.20	1600	52.80
Chaff cutters for IDF villages on community basis (mechanised) (DDD)	0.70	8	5.60	0.00	0.00	0.00	0.00	0.00	0.00	8	5.60
Fodder development activities ( 50 acres in farmers field (DDD)	0.235	40	9.40	3.40	0.79	3.30	0.78	3.30	0.78	50	11.75
Paddy straw block making (TANUVAS) demonstration unit	7	1	7.00	--	--	--	--	--	--	1	7.00
<b>Total</b>											<b>266.77</b>

#### Fodder Production by SHG @ 10 acre/ one/ block/ year (DAH)

<b>I.</b>	<b>Training Cost</b>	
<b>S.No.</b>	<b>Details</b>	<b>Amount (in Rs.)</b>
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
	<b>Total training cost per SHG</b>	<b>3,525.00</b>

Fodder Cultivation of Fodder (Co-3) per Acre

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

	<b>Financial Requirement Per Self Help Group:</b>	<b>Rs. in Lakhs</b>
1.	Cost of training per SHG	0.035
2.	Cost of fodder cultivation	0.20
	Total Requirement per SHG	0.235
<b>DAH</b>	<b>Total requirement for @ 10 Acres /Block/ 110 acres totally by DAH</b>	<b>25.85</b>
<b>DDD</b>	<b>Fodder development activities (in IDF villages &amp; in farmers field)Total requirement for 50 acres totally by DDD</b>	<b>11.75</b>

**Fodder Development in DLF Korukkai****District Livestock Farm, Korukkai-Fodder Development**

<b>Particulars</b>	<b>Total</b>
<b>I. Non-recurring</b>	
i. Deepening of tanks	33.27
ii. Desilting of lakes	35.00
iii. Preparation of fodder land, land clearance cost of seeds, sowing cost @ Rs.0.136 lakh per acre	17.00
iv. Land development and cost of seeds for pasture and grazing lands @ Rs.5000 per acre	13.50
<b>Total Non recurring cost</b>	<b>98.77</b>
<b>Recurring cost</b>	
Cost of maintenance of fodder plots @Rs.6400/ acres	7.50
<b>Total</b>	<b>106.27</b>

- **Popularizing Mineral mixture by supplying at subsidized cost - DAH**  
Popularizing Mineral mixture to improve livestock production to dairy cows @ Rs.600/cow/year, 1 kg / cow / month @ Rs.50/kg,12 kg/year, 1000 cows/year, 4000 cows/years- 4 Blocks (DAH). Total amount Rs.24 lakhs
- **Popularizing chaff cutter for SHGs – DAH @ Rs.10,000/- per unit**
- **Establishing of 6 x 6 x 4 feet silo to ensile sugarcane tops - DAH (75% @ of the total cost of Rs.15,000/-, costing about Rs.11,250/- per unit)**
- **Supply of mineral mixture to milch animals at subsidized cost (50%) @ 18 kg per year @ Rs.500/- per animal - DDD**
- **Supply by-pass protein feed to the milch animals of the members of the society**  
360 kg/animal/year) for 1800 cows @ 50% subsidy of Rs.9/- per kg. - DDD
- **Paddy straw block making (demonstration unit) – TANUVAS**

- Paddy straw block making demonstration unit- Rs.4.00 lakh
- Training Components - Rs.3.00 lakh
- Total cost per unit - Rs.7.00 lakh

### Implementation Chart of the Project

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Perennial fodder production 10 acre / block with training component (DAH)	10-10	10-10-10	10-10-10	10-10-10
Fodder development at District Livestock Farm Korukkai (DAH)	-	-	-	
Popularizing mineral mixture to improve livestock production (DAH) @ 1kg/month for one year	250-250-250-250	250-250-250-250	250-250-250-250	250-250-250-250
Popularizing chaff cutter for SHGs (DAH)	3-3-2-2	3-3-2-2	3-3-2-2	3-3-2-2
Establishment of 6 x 6 x 4 feet silo to ensile sugarcane tops (DAH) (75% Subsidy)	3-3-2-2	3-3-2-2	3-3-2-2	3-3-2-2
Supply of mineral mixture to the milch animals at subsidised cost (50%) @ 18 Kg/year (DDD)	250-250-250-500	250-250-250-500	250-250-250-500	250-250-250-500
Supply of by-pass protein feed to the milch animals (360kgs/ year/animal @ 50% subsidised cost of Rs.9/- per kg) (DDD)	100-100-100-100	100-100-100-100	100-100-100-100	100-100-100-100
Chaff cutters for IDF villages on community basis (Mechanised) (DDD)	2	2	2	2
Fodder development activities (500 acres in 100 IDF villages in IDF villages and in farmers field (DDD)	40	3	3	4
Paddy straw block making (TANUVAS) demonstration unit	1	-	-	-

### Reporting

The implementing agencies viz. Department of Animal Husbandry, Livestock farm officials, District Co-operative Milk Producers Union and the FTC, Thiruvarur, will submit periodical project reports to their controlling officers.

### Improvement of Livestock Health

Vaccine availability and cold storage facilities- Door-to-door health cover to livestock -Tracing of breedable bovine population-breeding and resource mobilization- Disaster Management - Establishment of Animal Disease Intelligence Unit- Programmed breeding indigenous cattle & buffalo to increase conception rate

### Abstract (Summary of the Project)

To provide comprehensive livestock health cover including immunization against important viral, bacterial diseases. This will protect livestock and poultry from diseases and overall improvement in health is anticipated. The proposal “Identification and traceability of bovines” will enable creation and maintenance of breedable bovine population which is very important for policy decision. Control of parasitic diseases will enhance vaccine response which will ensure optimum immunity. Mobile veterinary laboratory will monitor and maintain continued health cover and disease forecasting system. Mobile input units in Aavin will cover the health of animals.

### Budget

Sl.No.	Details	Amount Rs. in lakhs
1.	Identification and traceability of bovines (DAH)	10.00
2.	Control of parasitic diseases through treatment to enhance vaccine response (DAH)	22.50
3.	Mobile Veterinary Clinic (DAH)	34.98
4.	Disaster Management -DAH	115.31
5.	Establishment of Animal Disease Intelligence Unit (DAH)	24.50
6.	Programmed breeding indigenous cattle & buffalo to increase conception rate (DDD)	56.00
	<b>Total</b>	<b>263.29</b>

**Background / Problem Focus**

Artificial insemination service to livestock, immunization of animals and birds are carried out with the available manpower. Mobile veterinary laboratory facility will help in disease diagnosis, disease mapping and disease forecasting easily and quickly. Immunization and deworming of livestock and poultry.

**Project Rationale**

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

**Project Strategy**

Total cattle population under co-operative ambit is 16 lakh. Of which 70% are breedable at any given time.. Mobile veterinary laboratory facility will help in disease diagnosis, disease mapping and disease forecasting easily and quickly

**Project Goals**

- Implementation of livestock health cover schemes.
- Timely availability of vaccines and biological.
- Prompt diagnostic facilities on wheels

**Mobile Animal Disease Diagnostic Laboratory**

For mobility and to provide diagnosis at the farmer's doorsteps, the Animal Disease Diagnostic unit will be provided with one vehicle with facilities to make on the spot diagnosis. The vehicle will be fitted with a refrigerator, a centrifuge, a microscope and equipments to conduct post mortem examinations. This will help in identification of the pathogens quickly and thus undertake disease control measures without wastage of time. The cost of the vehicle is approximately Rs.11.00 lakh. The cost of microscope will be Rs.0.50 lakh cost of refrigerator will be Rs.0.25 lakh, cost of centrifuge will be Rs.0.15 lakh, cost of post mortem kits and other chemicals and chemical reagents will be Rs.0.10 lakh.

### **Establishment of Mobile Veterinary Clinics in each Block of Tamilnadu**

Animal Husbandry Department plays a major role in providing veterinary assistance and health cover to the livestock and poultry reared in the State. The services provided included health cover, disease diagnosis, and disease prevention, disease control, breeding support and imparting training to farmers. Apart from this, to provide veterinary services and breeding coverage to livestock reared by farmers residing in remote areas who face difficulties to reach veterinary institutions, 55 mobile veterinary units are functioning in the State. The services provided by these units are well recognized by the public as they provide the services at the doorsteps. The mobile units are located in the district / divisional headquarters and 14 mobile units are functioning in the hilly areas.

### **Need for the Programme**

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. Moreover, in some areas, the geographical terrain makes it difficult for the farmers to reach the nearest institution. 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 at the block headquarters of all the districts except in places where the units are already functioning.

- Each unit will consist of one Veterinary Assistant Surgeon, and 1 driver. The staff for the Mobile Veterinary Clinic will be sourced from the available staff in the department.
- One Veterinary Assistant Surgeon will be in charge of the vehicle. The vehicle will cover the remote and inaccessible villages on a scheduled programme of operation and render Veterinary Services.
- The unit will be provided with one vehicle at a cost of Rs.4.75 lakh.



- Medicines will be sourced from the Veterinary institutions available in the block itself and thus no additional funds are required to each unit to carryout treatment, deworming, vaccination etc.
- Necessary equipments like surgical and obstetrical kits, microscope, AI guns, etc apart from LN<sub>2</sub> containers sheath will be provided to each unit.
- Diesel worth Rs.45,000/- will be provided per year to each unit for running the vehicle.
- The unit will prepare a scheduled tour programme on 6 days a week basis mentioning the villages that are being covered on each day about which the farmers will be intimated well in advance.
- The units will go around the area of operation as per the programme and carryout the activities providing breeding support and veterinary health care.

### **Anticipated Benefits**

- Farmers in remote villages can get veterinary assistance and breeding support at their villages itself.
- Saving the valuable time of the animal rearers as they need not spend unnecessary time in bringing their animals to
- far away veterinary institutions for getting veterinary assistance and breeding support.
- Helps in improving the economy of the target villages.

### **Project Components**

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

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

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

- **Identification & traceability of bovines @ Rs. 20 /animal – DAH**
- **Control of parasitic diseases – DAH**

Control of parasitic diseases to enhance vaccine response @ Rs.1/- per sheep or goat and Rs.3/- per calf below one year, 4 times /year, Rs. 5.63 Lakhs/year, for 4 years (DAH) for 90,240 calves, 13,251 Sheep and 3,75,318 Goats

- **Mobile Veterinary Clinics - DAH**

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

**Non-recurring expenditure**

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

**Recurring Expenditure**

Diesel 90 Lit x 12 xRs.40	:	Rs.0.432 lakh
<b>Total cost</b>	:	<b>Rs.5.832 lakh</b>

**List of Equipments and Instruments Required for one Mobile Veterinary unit**

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

**Disaster Management –DAH**

<b>Particulars</b>	<b>Unit cost Rs in lakhs</b>
<b><u>Disaster management</u></b>	
1.Training for VAS	0.03
2.Mobile phone at veterinary institutions	0.02
3.Mobile phone connectivity charges	0.009
4.Cost of vaccine	7.0
5.Animal shelter	21.0

- **Establishment of Animal Disease Intelligence Units - DAH**

Diseases cause huge economic loss to the farming community by way of Livestock Mortality and decreased productivity which has a direct impact on food security and rural economy. Control and eradication of many diseases is a must not only for profitable Livestock production but also essential to make our Livestock & Livestock products globally acceptable. Systematic control of diseases will progressively lead to its containment first and eradication ultimately. Information about the prevalence rate and disease burden of the state's Livestock population is critical in the right against Livestock diseases and this forms the basis for planning and initiating disease prevention and control strategies. Moreover, early forecasting of diseases and surveillance is essential to provide early warning signature of outbreaks while epidemiology helps in systematic study of the distribution and determinants of health problems.

**Role of Animal Disease Intelligence Units**

- Assisting field staff in disease diagnosis.
- Monitoring of disease outbreaks and helping field staff in containment of outbreak.
- Monitoring of livestock health in the district.
- Seromonitoring in vaccination programmes.
- Surveillance for bird flu.

The increased crossbred population and more susceptibility to diseases compared to native animals. Moreover emerging diseases like blue tongue and PPR in sheep, bird flu in poultry have all created an additional close look on strengthening the disease surveillance and monitoring system in the state.

Hence it has been planned to establish ADIUs in such districts that do not have an ADIU under NADP programme. The above proposed A.D.I.U.'s will function as per the norms of the already established A.D.I.U.'s. Each unit will be provided with the necessary equipment worth Rs.9.00 lakhs and furniture worth Rs.0.50 lakhs. In addition they will be provided with necessary chemicals and glassware's at a cost of Rs.1.00 lakh. Apart from this they will be provided Rs.1.00 lakh for purchase of office equipments like computers and accessories, communication aides such as telephone, fax, etc.

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

[

The cost of the vehicle along with equipments will be approximately Rs.12/- lakh. The cost of the vehicle is approximately Rs.11.00 lakh. The cost of microscope will be Rs.0.50 lakh, cost of refrigerator will be Rs.0.25 lakh, cost of centrifuge will be Rs.0.15 lakh, cost of post mortem kits and other chemicals and chemical reagents will be Rs.0.10 lakh. In addition, they will be provided a recurring cost of Rs.1.00 lakh towards petroleum, Oil and Lubricants, Maintenance and purchase of stationeries etc.

Thus Animal Disease Intelligence Unit will be established at a cost of Rs. 24.50 lakhs in which Rs.22.50 lakhs will be the non-recurring cost and Rs.2.00 lakhs will be the recurring cost.

The staff will be sourced by redeployment within the department.

### **Anticipated Benefits**

- Timely diagnosis and control of diseases in all districts will be ensured.
  - Better surveillance and prevention of outbreak of various diseases.
  - Aid in developing an efficient system of disease monitoring and surveillance of economically important diseases at the district level, which will help in evolving suitable control measures at the district level.
  - This will go a long way in preventing economic loss to farmers and help in their economic upliftment.
- 
- **Programmed Breeding of Indigenous Cattle & Buffalo** to increase conception rate @ Rs.700/animal, for 6000 animals.(DDD)- will result in 3150 additional adult female buffaloes are brought in and additional revenue of Rs.3.024 lakh per day is created to the farmer through additional milk expected to be produced - **DDD**



**Implementation Chart of the Project**

<b>Activity</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011-2012</b>
Identification and traceability of bovines (DAH)	50000	-	-	-
Control of parasitic diseases through treatment to enhance vaccine response (DAH)	-	-	-	-
Mobile Veterinary Clinic (DAH)	2-2-2	-	-	-
Infrastructure improvement of veterinary institutions (DAH)	6-6-6-6	-	-	-
Disaster Management – DAH	-	-	-	-
Establishment of Animal Disease Intelligence Unit (DAH)	1	-	-	-
Programmed breeding indigenous cattle & buffalo to increase conception rate (DDD)	2000	2000	2000	2000

**Reporting**

The implementing agencies viz. Department of Animal Husbandry, Livestock farm officials, District Co-operative Milk Producers Union and the FTC, Thiruvarur, will submit periodical project reports to their controlling officers.

### III. Infrastructure development

**Strengthening processing, quality control and marketing facilities at dairy development department . Strengthening of Livestock Farm-Korukkai and the veterinary institutions with basic facilities like fencing, water troughs, Animal purchase etc.- Rural herbal nurseries**

#### Abstract (Summary of the Project)

Facilities to handle excess milk during flush season and also making available of value added milk products to consumers are proposed. Milk weighing machines will save time and will infuse confidence among Aavin society members. Bulk milk coolers and Walk in coolers will facilitate more milk production by farmers.

#### Budget

Sl.No.	Details	Amount Rs. In lakhs
1.	Improvement of District Livestock Farm Livestock Component - Korukkai (DAH)	63.10
2.	Infrastructure improvement of veterinary institutions (DAH)	120.00
3.	Milking machines for ID farms (DDD)	8.00
4.	Portable milking machines for farmers (DDD)	1.80
5.	Bulk milk cooler (DDD)	30.00
6.	Walk-in coolers (DDD)	30.00
7.	Revival of Dormant MPCS (DDD)	10.00
8.	Manufacturing facilities for milk Khoa (DDD)	1.54
9.	Manufacturing facilities for ice cream (DDD)	1.12
10.	Milk weighing machine for milk producers Co-Op Societies (DDD)	0.85
11.	P.C.Based automatic milk collection stations to IDF villages milk producers cooperative societies (DDD)	21.00
12.	Establishing rural herbal nursery units for SHG women – solar powered units (TANUVAS)	20.00
	<b>Total</b>	<b>307.41</b>



**Background / Problem Focus**

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

**Project Rationale**

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

**Project Strategy**

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

**Project Goals**

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

**Project Components****Milk Collection & Processing components**

- Milking machines for ID farms (DDD)

- 
- P.C.Based automatic milk collection stations to IDF villages milk producers cooperative societies (DDD)
  - Portable milking machines for farmers (DDD)
  - Quality assurance lab strengthening (DDD)
  - Revival of Dormant MPCS (DDD)
  - Walk-in coolers (DDD)
  - Bulk milk cooler (DDD)
  - Energy management system (DDD)
  - Milk weighing machine for milk producers Co-Op Societies (DDD)
  - Manufacturing facilities for milk Khoa (DDD)

**Infrastructure development**

- Renovation of existing Veterinary institutions (DAH)
- Establishing rural herbal nursery units for SHG women – solar powered units (TANUVAS)

**Project Cost and Financing: Rs. in Lakhs**

Project Title	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand Total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
Improvement of District Livestock Farm Livestock Component - Korukkai (DAH)	63.10	-	63.10	-	-	-	-	-	-	-	63.10
Infrastructure improvement of veterinary institutions (DAH)	5	24	120.00	-	-	-	-	-	-	24	120.00
Milking machines for ID farms (DDD)	1.00	8	8.00	0.00	0.00	0.00	0.00	0.00	0.00	8	8.00
Portable milking machines for farmers (DDD)	0.18	4	0.72	2.00	0.36	2.00	0.36	2.00	0.36	10	1.80
Bulk milk cooler (DDD)	30.00	1	30.00							1	30.00
Walk-in coolers (DDD)	30.00	1	30.00							1	30.00
Revival Of Dormant MPCS (DDD)	1.00	2	2.00	2.00	2.00	3.00	3.00	3.00	3.00	10	10.00
Manufacturing facilities for milk khoa (DDD)	0.77	1	0.77	1.00	77.00					2	1.54
Manufacturing facilities for icecream (DDD)	1.12	1	1.12							1	1.12
Milk weighing machine for milk producers co-op. societies (DDD)	0.17	2	0.34	1.00	0.17	1.00	0.17	1.00	0.17	5	0.85
P.C.based automatic milk collection stations to IDF villages milk producers cooperative societies (DDD)	1.75	8	14.00	4.00	7.00					12	21.00
Establishing rural herbal nursery units for SHG women –solar powered units (TANUVAS)	10	1	10.00	1	10.0					2	20.00
<b>Total</b>											<b>307.41</b>

**District Livestock Farm, Korukkai**  
**Livestock Component**

Particulars	I year	II year	III year	IV year	V year	Total
<b>I. Non recurring</b>						
i. Repair of sheds	20.00	--	--	--	--	20.00
ii. Live fencing	30.00	--	--	--	--	30.00
iii. Purchase of animals	2.50	2.50	2.50	2.80	2.80	13.10
<b>Total (NR)</b>	<b>52.50</b>	<b>2.50</b>	<b>2.50</b>	<b>2.80</b>	<b>2.80</b>	<b>63.10</b>
<b>I. Recurring</b>						
i. Feed & medicines	<b>(Existing budget is sufficient)</b>					
<b>Grand Total (A)</b>	<b>52.50</b>	<b>2.50</b>	<b>2.50</b>	<b>2.80</b>	<b>2.80</b>	<b>63.10</b>

**Establishing Rural Herbal Nursery Units for SHG Women –**  
**Solar Powered Units**

Items	Cost in Rs.
A poly-green house for raising seedlings of medicinal herbs and fodder varieties for sale 100 sq. ft. area	1,00,000
A fodder plot with relevant fodder grasses and trees	1,000
EVM herbal garden harbouring plants essential for primary health care of livestock and human beings	1,000
The complex is to be fitted with solar power lighting-two lights	50,000
Building in 300 Sq.ft area with low cost roofing and water harvesting arrangement.	2,00,000
Under – ground water source, bore-well	2,50,000
Solar pumping system	1,50,000
Solar uninterruptible power supply (UPS)	19,000
Solar lantern	4,000
A personal computer with printer working on solar power source	75,000
Organising Training and materials	50,000
Recurring Grant	1,00,000
<b>Total</b>	<b>10,00,000</b>

- **Infra Structure Development of Veterinary Institutions - DAH**

Fencing, borewell with water troughs, minor repair of Veterinary Institutions for 20 units @ Rs. 5.00 lakhs per unit

### Implementation Chart of the Project

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Improvement of District Livestock Farm Livestock Component - Korukkai (DAH)	-	-	-	--
Infrastructure improvement of veterinary institutions (DAH)	24	-	-	-
Milking machines for ID farms (DDD)	8			
Portable milking machines for farmers (DDD)	4			
Bulk milk cooler (DDD)	1			
Walk-in coolers (DDD)	1			
Revival of Dormant MPCS (DDD)	2	2	3	3
Manufacturing facilities for milk Khoa (DDD)	1	-	-	-
Manufacturing facilities for ice cream (DDD)	1		-	-
Milk weighing machine for milk producers Co-Op Societies (DDD)	2	1	1	1
P.C.Based automatic milk collection stations to IDF villages milk producers cooperative societies (DDD)	8	4	-	-
Establishing rural herbal nursery units for SHG women – solar powered units (TANUVAS)	1	1	-	-

### Reporting

The implementing agencies viz. Department of Animal Husbandry, Livestock farm officials, District Co-operative Milk Producers Union and the FTC, Thiruvarur, will submit periodical project reports to their controlling officers.

#### IV. Extension Facilities

Capacity building through adoption of technology – Training to sensitize field veterinarians and farmers on Ethno Veterinary Medicine for primary health care of livestock to save time, energy and money and it is eco-friendly- Study tour for farmers.

#### Abstract (Summary of the Project)

As many as two thirds of the world's peoples today reportedly survive on the foods that have been and are being provided to humanity through indigenous knowledge of plants, animals, insects, microbes and farming systems. In India more than 70 % people live in rural areas. Of which over 70 % own livestock. India has a livestock population of nearly 200 million (that is about 20 % of the world's livestock population) and the contribution of livestock sector is 26 % of the total agriculture. Small and marginal farmers account for 56 % of the bovine (cattle and buffalo) and 62 % of the sheep and goat population. Of the total household income categories, income from livestock accounts for 15-40 %.

#### Budget

Sl.No.	Projects	Cost in lakh
1.	Farmers study tour @ Rs.5000/- per farmer (DDD)	7.50
2.	Orientation training / workshop for milk producers at society level (DDD)	3.20
3.	Training vets. / NGOs / line department staff on EVM(TANUVAS)	5.00
4.	Infrastructure for FTC Thiruvarur with propaganda unit facilities (TANUVAS)	10.00
	<b>Total</b>	<b>25.70</b>

**Background / Problem Focus**

For the resource poor farmers, who have a few heads of livestock, cost-effective animal husbandry is a priority. Healthy and productive livestock with optimal inputs from renewable resources form the basis for sustained income. The natural resource management would be of foremost significance. The issue is to meet the challenge on increasing the productivity of the complex farming systems of the smallholder farmers. The secret apparently lies in understanding the indigenous traditional livestock healthcare practices in totality and in a proper perspective. Establishment and management of common property resources such as fodder fields, herbal gardens and village ponds would help sustain life in villages. It is increasingly recognised that the environmental sustainability and diversity are ecologically linked. This is because diversity offers a multiplicity and synergism of interactions, which can safeguard and if necessary, heal any part of the system.

**Project Rationale**

Despite the impact apparently created by modernisation and development in the recent past in agriculture and animal husbandry in the last few years, there has been a change in the attitude towards a traditional knowledge base on agriculture and animal husbandry. A concept catching up fast is indigenous technology and has been practiced in harmony with nature. There is also revival of interest in conserving the germ plasm of the native plant and animal species. The native species are known to be drought resistant and would thrive even in severe droughts situations. It is not out of context to mention about the traditional practice prevalent in different parts of the state-cattle herds from nearby Perambalur and Ariyalur districts are brought to the Cauvery delta by road, which are used for herding the fields. Every herd comprises of 100 animals of native species generally referred to as Kidayamadu or Malaiyamadu. They charge Rs.150/- per night per unit of 100 animals. It is interesting to note that the respective cattle owners are not paid anything in cash. This practice enables sustenance of cattle during drought. This system may be taken up and all possible help should be rendered to make it remunerative and effective especially during drought situations. Apart from being a veritable resource of native germplasm the local breeds of livestock provide the valuable organic manure to thousands of hectares of cultivable lands. Nuclear herds of native breeds must be established in private and Government sectors.

**Project Strategy**

- Capacity building is the key for imparting knowledge to farmers at grass root level
- Training on EVM to farmers, veterinarians, other stake holders
- Documentation and validation of ITK
- Field tour for farmers

**Project Goals**

- Training on skill components to farmers
- Field visits
- EVM propagation with all stake holders

**Project components**

- **Farmers study tour @ Rs.5000/- per farmer (DDD)**
- **Orientation training/workshop for milk producers' at society level**  
Rs.20,000 per programme, 4 programmes/year, for 4 years – **DDD**
- **Training vets. / NGOs / line department staff on EVM(TANUVAS) @**  
Rs.5000/- per staff
- **Strengthening of training equipments for technology dissemination on EVM at FTC, Thiruvarur**

S.No.	Scheme Component	Unit cost
1	Strengthening of TANUVAS centre with facilities for transfer of technology - Training	
	1.Van	7.50
	2.LCD projector with laptop computer	1.35
	3.P.A.system	0.25
	4.Digital video camera	0.25
	5.Generator	0.50
	6.Charts & displays	0.15
	<b>Total</b>	<b>10.00</b>



**Project Cost and Financing : Rs. in Lakhs**

Project Title	Unit Cost	2008-2009		2009-2010		2010-2011		2011-2012		Grand Total	
		Units	Cost	Units	Cost	Units	Cost	Units	Cost	Total Units	Total Cost
Farmers study tour @ Rs.5000/- per farmer (DDD)	0.05	40	2	40	2	40	2	30	1.5	150	7.50
Orientation Training / Workshop for Milk Producers at society level (DDD)	0.20	4	0.80	4.00	0.80	4.00	0.80	4.00	0.80	16	3.20
Training vets. / NGOs / line department staff on EVM (TANUVAS)	0.05	25	1.25	25	1.25	25	1.25	25	1.25	100	5.00
Infrastructure for FTC Thiruvarur with propaganda unit facilities (TANUVAS)	10	1	10.00							1	10.00
<b>Total</b>										<b>25.70</b>	

**Implementation Chart of the Project**

Activity	2008-2009	2009-2010	2010-2011	2011-2012
Farmers study tour @ Rs.5000/- per farmer (DDD)	40	40	40	30
Orientation training / workshop for milk producers at society level (DDD)	4	4	4	4
Training vets. / NGOs / line department staff on EVM(TANUVAS)	25	25	25	25
Infrastructure for FTC Thiruvarur with propaganda unit facilities (TANUVAS)	1	-	-	-

**Reporting**

The implementing agencies viz. Department of Animal Husbandry, Livestock farm officials, District Co-operative Milk Producers Union and the FTC, Thiruvarur, will submit periodical project reports to their controlling officers.

Table. 6.81 Animal Husbandry Sector – Budget Details for four years – 2008 – 2012

Sl. No	NAME OF THE PROGRAMME	Unit cost	2008-09		2009-10		2010-11		2011-12		Total	
			units	Cost	units	Cost	units	Cost	units	Cost	units	Cost
<b>1</b>	<b>CATTLE &amp; BUFFALO</b>											
<b>I</b>	<b>FEED AND FODDER DEVELOPMENT</b>											
1	Perennial fodder production 10 acre / block with training component (DAH)	0.235	110	25.850	--	--	--	--	--	--	110	25.850
2	Fodder development at District Livestock Farm Korukkai (DAH)	--	--	106.270	--	--	--	--	--	--	--	106.270
3	Popularizing mineral mixture to improve livestock production (DAH) @ 1kg/month for one year	0.006	1000	6.000	1000	6.000	1000	6.000	1000	6.000	4000	24.000
4	Popularizing chaff cutter for SHG (DAH)	0.1	10	1.000	10	1.000	10	1.000	10	1.000	40	4.000
5	Establishment of 6 x 6 x 4 feet silo to ensile sugarcane tops (DAH) (75% Subsidy)	0.1125	10	1.125	10	1.125	10	1.125	10	1.125	40	4.500
6	Supply of mineral mixture to the milch animals at subsidised cost (50% ) @ 18 kg/ year (DDD)	0.005	1250	6.250	1250	6.250	1250	6.250	1250	6.250	5000	25.000
7	Supply of by-pass protein feed to the milch animals (360kgs/ year/animal @ 50% subsidised cost of rs.9/- per kg.) (DDD)	0.033	400	13.200	400	13.200	400	13.200	400	13.200	1600	52.800
8	Chaff cutters for IDF villages on community basis (mechanised) (DDD)	0.7	8	5.600	0	0.000	0	0.000	0	0.000	8	5.600
10	Fodder development activities ( 50 acres in farmers field (DDD)	0.235	40	9.400	3.4	0.799	3.3	0.7755	3.3	0.7755	50	11.750
11	Paddy straw block making (TANUVAS) demonstration unit	7	1	7.000	--	--	--	--	--	--	1	7.000

Sl. No	Name of the Programme	Unit cost Rs. in lakhs	2008-09		2009-10		2010-11		2011-12		Total	
			units	Cost in lakhs	units	Cost in lakhs	units	Cost in lakhs	units	Cost in lakhs	units	Cost in lakhs
<b>II</b>	<b>IMPROVEMENT OF LIVESTOCK HEALTH AND GENETIC UPGRADATION</b>											
1	Identification and traceability of bovines (DAH)	0.0002	50000	10.000	0	0.000	0	0.000	0	0.000	50000	10.000
2	Control of parasitic diseases through treatment to enhance vaccine response (DAH)			5.630	0	5.630	0	5.620	0	5.620	0	22.500
3	Mobile Veterinary Clinic (DAH)	5.832	6	34.992	0	0.000	0	0.000	0	0.000	6	34.980
4	Disaster Management -DAH			115.310	0	0.000	0	0.000	0	0.000	0	115.310
5	Establishment of Animal Disease Intelligence Unit (DAH)	24.5	1	24.500	0	0.000	0	0.000	0	0.000	1	24.500
6	Programmed breeding indigenous cattle & buffalo to increase conception rate (DDD)	0.007	2000	14.000	2000	14.000	2000	14.000	2000	14.000	8000	56.000
<b>IV</b>	<b>INFRASTRUCTURE DEVELOPMENT</b>											
1	Improvement of District Livestock Farm Livestock Component - Korukkai (DAH)	63.1	-	63.100	-	-	-	-	-	-	-	63.100
2	Infrastructure improvement of veterinary institutions (DAH)	5	24	120.000	-	-	-	-	-	-	24	120.000
3	Milking machines for id farms (DDD)	1	8	8.000	0	0.000	0	0.000	0	0.000	8	8.000
4	Portable milking machines for farmers (DDD)	0.18	4	0.720	2	0.360	2	0.360	2	0.360	10	1.800
5	Bulk milk cooler (DDD)	30	1	30.000							1	30.000
6	Walk-in coolers (DDD)	30	1	30.000							1	30.000
7	Revival Of Dormant MPCS (DDD)	1	2	2.000	2	2.000	3	3.000	3	3.000	10	10.000
8	Manufacturing facilities for milk khoa (DDD)	0.77	1	0.77	1	0.77					2	1.540
9	Manufacturing facilities for ice-cream (DDD)	1.12	1	1.120							1	1.120

Sl. No	Name of the Programme	Unit cost	2008-09		2009-10		2010-11		2011-12		Total	
			units	Cost	units	Cost	Units	Cost	units	Cost	units	Cost
10	Milk weighing machine for milk producers co-op. societies (DDD)	0.17	2	0.340	1	0.170	1	0.170	1	0.170	5	0.850
11	P.C.based automatic milk collection stations to IDF villages milk producers cooperative societies (DDD)	1.75	8	14.000	4	7.000					12	21.000
12	Establishing rural herbal nursery units for SHG women –solar powered units (TANUVAS)	10	1	10.000	1	10.0					2	20.000
	<b>EXTENSION FACILITIES</b>											
1	Farmers study tour @ Rs.5000/- per farmer (DDD)	0.05	40	2.000	40	2.000	40	2.000	30	1.500	150	7.500
2	Orientation Training / Workshop for Milk Producers at society level (DDD)	0.2	4	0.800	4	0.800	4	0.800	4	0.800	16	3.200
3	Training vets. / NGOs / line department staff on EVM(TANUVAS)	0.05	25	1.250	25	1.250	25	1.250	25	1.250	100	5.000
4	Infrastructure for FTC Thiruvarur with propaganda unit facilities (TANUVAS)	10	1	10.000							1	10.000
	<b>TOTAL</b>			<b>680.232</b>		<b>138.580</b>		<b>55.560</b>		<b>55.060</b>		<b>863.170</b>

**Fisheries****1. Subsidy Assistance to Private Fish Seed Rearing / Fish Seed Production  
(50% subsidy)****Abstract**

The fish farmers in Thiruvarur district are progressive and adopt modern technologies in fish seed / fish production. The water resources can be utilised to expand the inland fisheries activities in the district. The potential can also be tapped to cater to the need of other districts. Hence, it is proposed to encourage private participation in fish seed production / fish seed rearing by extending subsidy assistance of 50% of the capital cost with a production capacity of 10 million early fry / one million fingerlings.

**Budget : Rs. 150.00 lakhs**

**Background / Problem Focus**

To encourage private participation in fish seed production. Fish seed rearing by extending subsidy assistance of 50% of the capital cost with a production capacity of 10 million.

**Project Rationale**

To Fish production by producing more quantity of fish seeds.

**Project Strategy**

- To improve the fish rearing of Thiruvarur.

**Project Goals**

- 300 lakhs fingerlings within a span of four years

**Project Components**

- I year – 5 units; II year - 10 Units; III year - 10 Units; IV year - 5 Units

**Project Cost and Financing : Rs. 150.00 lakhs**

**Unit cost at 50% subsidy**

S.No.	Particulars	Cost ( lakhs)
a.	Subsidy for the repair and renovation work per ha rearing area	2.00
b.	Subsidy for Purchase of net, hapa scoop net	0.20
c.	Subsidy for Seed ,feed ,medicine, purchase	0.80
d.	Subsidy for construction of cement nursery	2.0
	<b>Total</b>	<b>5.0</b>
	<b>Grand total ( for 30 units)</b>	<b>150.00</b>

**Implementation Chart of the Project**

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

**Reporting**

The project will be implemented evaluated by Department of Fisheries.

**2) Expansion of Fish Culture in Hitherto Unutilized Water Bodies by Stocking (50% subsidy)**

**Abstract**

It is proposed to cover 2000 ha of water bodies additionally to bring under fish culture by extending 50% subsidy assistance for stocking fingerlings. The total cost would be Rs. 25 lakhs for the supply of 125 lakhs fingerlings @ 50% subsidy.

Budget : Rs. 25.00 lakhs

**Project Rationale :**

- To augment the fish productivity of existing water bodies for fish culture

**Project Cost and Financing**

SL. No.	Particulars	Amount (Rs. in Lakhs)
1.	Supply of fingerlings, 2000 ha, @ unit cost Rs. 0.0125 lakhs for 2000 units for 4 years (50% subsidy)	25.00

**Implementation Chart of the Project**

Sl.	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Selection of farmers	√	√		
2.	Extending the subsidy	√	√	√	√
3.	Procurement of fingerlings & stocking	√	√	√	√

**Implementation Chart of the Project**

- The project will be implemented in three years period

**Reporting**

The project will be implemented by the Department of Fisheries.

**3. To Sustain / Retain the Existing Infrastructure Facility (Ponds Under Culture) for Aquaculture (25% subsidy)****Abstract**

Shrimp farmers of Thiruvarur district find it very difficult to continue shrimp farming and fresh water pond culture due to input cost escalation, disease outbreak, price fluctuation in the international market, etc. It is highly essential to intervene to sustain the growth and retain the farmers to continue aquaculture. 500 ha of coastal shrimp farms and another 500 ha of fresh water fish farms in this district require intervention. The unit cost for the renovation of 1 ha shrimp pond needs Rs. 1.2 lakh, of which 25 % of the unit cost may be met by subsidy. An individual farmer can be given a subsidy to a maximum of Rs. 1.5 lakh.

**Budget : Rs. 300.00 lakhs**

### Background / Problem Focus

At present the shrimp farmers are Thiruvarur district faced find it difficult to continue a shrimp farming and composite fish culture because of price fluctuation disease, international market price fluctuation etc., Therefore, it is necessary to provide adequate infrastructure facilities to sustain the growth and retain the fish farmers to continue aquaculture practices.

### Project Rationale/ Project Strategy/ Project Goals

- Existing farmers will be encouraged to stay in their farming activities
- Providing infrastructure facilities to sustain the growth and retain the fish farmers to continue aquaculture practices for improving the aquaculture production.
- Existing farmers will be encouraged to stay in their farming activities

### Project Rationale/ Project Strategy/ Project Goals

- Existing farmers will be encouraged to stay in their farming activities
- Providing infrastructure facilities to sustain the growth and retain the fish farmers to continue aquaculture practices for improving the aquaculture production.
- Existing farmers will be encouraged to stay in their farming activities

### Project Cost and Financing

#### Unit Cost at 25% Subsidy

S. No.	Particulars	Cost ( lakhs)
a.	Subsidy for the repair and renovation of ponds	0.10
b.	Subsidy for chemicals & medicines	0.025
c.	Subsidy for Seed ,feed ,medicine, purchase	0.15
d.	Subsidy for fuel	0..025
	<b>Total</b>	<b>0.30</b>
	<b>Grand total ( for 1000 ha)</b>	<b>300.00</b>



**Implementation Chart of the Project**

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Selection of freshwater farm	√	√		
2.	Selection of shrimp farm		√		
3.	Registration of farms		√		
4.	Provision of infrastructure facilities (with subsidy)		√	√	√

**Reporting**

Department of Fisheries.

**4. To Provide Subsidy for the Provision of Moped with Ice Box for Fish Marketing (50% subsidy)**

**Abstract**

The mopeds with icebox will be provided to inland fishermen for hygienic marketing. Thiruvarur district is mostly agrarian comprising rural areas with poor roads and logistic facilities. The fish caught in the coast, rivers, weirs and rural ponds reach the market and to the consumers in poor quality. To add value and quality to the landings, it is necessary to provide them with mopeds with ice boxes

**Budget : Rs. 4.50 lakhs**

**Background / Problem Focus / Project Rationale**

- For transporting and progressing fish hygienically.
- Fishermen and vendors will be provided with icebox and mopeds could help make available of the fish produce in time with quality retention.

**Project Strategy / Project goals/ Project components**

- Making available mopeds and icebox at affordable price to meet the fishermen needs.
- To promote and sale of fish of high quality with hygiene
- Supply of 30 units of mopeds with ice box at 50% subsidy

**Project Cost and Financing**

Cost of unit	:	0.15 Lakhs
<b>Cost of the moped</b>	<b>:</b>	<b>0.25</b>
Ice box	:	0.05
Total cost	:	0.3
Subsidy	:	0.15 (@ 50 %)
No of units	:	30 units
Total cost 30 x .15 = 4.5 lakhs		

**Implementation Chart of the Project**

S.No	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Supply of moped with ice box	√	√	√	

**Reporting**

Progress of the project will be reported periodically.

**5. Provision of Subsidy for the Purchase of Drag Net (50% Subsidy)****Abstract**

In Thiruvarur district, the fishermen do not have dragnets to do fishing effectively in the natural water bodies. The fish farmers and seed producers also do not have good quality effective drag nets to collect breeders and examine them. Hence, it is necessary to intervene and provide them with drags at subsidised cost. The mesh size is one inch. Length of the net is 100 m with a height of 3 m with head rope and foot rope. Unit cost of drag net is Rs. 20,000, of which 50% can be given as subsidy to encourage the farmers for improving their fishing efficiency.

**Budget : Rs. 30.00 lakhs**

**Background / Problem Focus / Project Rationale**

The fishermen will be helped to exploit the fishery wealth of the riverine eco-system of the Cauvery Delta

**Project Cost and Financing**

Unit cost	:	Rs.20,000/-
Subsidy amount 50%	:	Rs.10,000/-
Total No.of Units	:	300
Total cost	:	Rs. 30.00 Lakh

**Project Implementation Chart**

S.No	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Identification of farmers and farms	√			
2.	Providing subsidy for the input		√		
3.	Stocking and farming		√	√	√
4.	Sampling and harvest			√	√

**Reporting**

The project will be implemented by Department of Fisheries.

**6. Sea Ranching for Stock Enhancement****Abstract**

In the present marine landings the quantity of shrimp and high quality fishes are decreasing. To enhance the quantity of shrimps and other quality fishes it is necessary to replenish the marine resources by ranching the quality shrimp and fish seeds into the sea. 10 million of shrimp seeds and crab seeds can be ranched in the open sea in Tiruvarur district at the cost of Rs.30, 00,000/- over the period of (Rs.26.00 lakh for shrimp seeds and Rs.4.00 lakh for crab seeds) 4 years. The implementing agency will be Fisheries Department and TNFDC.

**Budget :** Rs. 30.00 lakhs

**Background / Problem Focus**

At present the quantity of shrimp and fishes landing in this district is decreasing day by day. Therefore it is necessary to sea ranch the shrimp and other fishes in the sea to increase the quantity.

**Project Rationale**

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

**Project Strategy**

To implement the programme of Community Sea ranching in all the coastal districts to support marine fishery and stock retention.

**Project Goals**

- To identify suitable ground along the coast to sea ranch fin fish and shell fish species.
- To give awareness to the fishermen and coastal fisher folk about the value of sea ranching implement the programme with fishermen participation for community development and enhanced fish production and enhanced fish production.

**Project components**

- Marine fish and shrimp species suitable for breeding and sea ranching.

**Project Cost and Financing.****Shrimp seeds**

Unit cost	:	Rs. 2,60 lakhs / one million prawn seeds
Total No.of Units	:	10 units
Total cost	:	Rs. 26.00 lakhs

**Crab seeds**

Unit cost	:	Rs. 2.00 lakhs / one lakh seeds
Total No.of Units	:	2 units
Total cost	:	Rs. 4.00 lakhs

**Project Implementation Chart**

S.No	Particulars	2008-09	2009-10	2010-11
1.	Identification of suitable coastal site	√		
2.	Sea ranching		√	
3.	Installation			√
4.	Training			√
5.	Sampling and fish catch		√	√

**Reporting**

State Fisheries department.

**7. Capacity building by imparting training to farmers****Abstract**

There are array of technologies available for increasing fish production. These technologies are not fully exposed to fish farmers. Poor and impoverished technology will make the farmers to invest in wrong technologies. This will make poor returns to farmers. in order to create awareness on scientific culture and to encourage the farmers to adopt latest technologies .it is essential to import exposure training by taking them to visit by various central and stat institutes and commercial fisheries activities being practiced any where else in the country .

**Budget : Rs. 3.00 lakhs**

**Background / Problem Focus**

The farmer has to be trained in recent advances of fisheries techniques for dissemination to the field level staff, fisher folk and entrepreneurs. So they have to be empowered with adequate knowledge by than exposure. It will also help in formulation of new project proposals. 300 farmers will be trained in these aspects.

**Project Rationale/ Project Strategy / Project Goals**

Empowering the farmers and the field level staff in modern fisheries techniques for updating.

- Exposure to fisheries advance techniques for empowerment
- To empower the fisheries staff and officials.

**Project Components**

Fisheries staff of TANUVAS, State Fisheries Department officials and scientist – empowerment by the dissemination of new techniques in various fisheries techniques like aquaculture fish culture, value added fishery products, preparation, application, raceways, cage fish

**Project Cost and Financing**

S.No.	Particulars	App. Budget
1.	DA/TA for participants	Rs. 400
2.	Extension materials	Rs. 400
3.	Refreshments	Rs. 200
<b>Total</b>		<b>Rs. 1000</b>
<b>Total number of participants 300 x Rs.1000</b>		<b>Rs. 3 lakhs</b>

**Implementation of Chart of the Project**

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

**Reporting**

Tamilnadu Veterinary and Animal Sciences University

**8. Establishment of integrated aquaculture****Abstract**

Muthupet in Thiruvarur is tail end of Cauvery riverine system, more than 10,000ha area of ideal land suitable for aquaculture development is available and it is not suitable for any other farming activities. Farms established already in this area having horticultural crops in its bunds.

**Budget : Rs. 10.00 lakhs**

**Background / Problem Focus**

Due to failure in other farming in certain pockets farmers are coming forward for fish culture. At the same time they have acumen in other farming practices including paddy and other horticultural crops as well as animal components. Having this backdrop this scheme has been evolved.

**Project Rationale**

To make use of the resources to get maximum possible fish production and financial returns, which are otherwise usable least.

**Project Strategy**

To implement the programme of integrated aquaculture wherever possible in this district so that farmers will gain first hand knowledge of gainful farming

**Project Goals**

- To utilize the existing water bodies for multiple cropping
- To enhance fish production with least compromise in other production practices
- To augment fish production

**Project components**

Paddy cum fish culture : Excavation through trench cutting method in paddy Rs.0.4 lakh/hr. field and 50 lakhs will be used for the purpose.

**Project Cost and Financing.**

Unit cost	:	Rs.0.4 lakhs/ha (Rs. 40000)
Excavation of peripheral trench of (200 + 200 + 50 + 50 meter length and 0.5 m width)		
No of units	:	50 ha
Subsidy at 50%	:	0.2 lakh/ha (Rs.20000)
Total cost 50 units x 0.2 lakh	:	10.0 lakh

**Project Implementation Chart**

Particulars		2008-09	2009-10	2010-11	2011-12
Excavation of trench in paddy field	10	√			
	20		√		
	10			√	
	10				√

**Reporting**

The project will be done by FFDA farmer and evaluated by the Department of Fisheries.

**9. Demo Unit at Muthupet****Abstract**

Department land (about 2 ha) adjacent to Muthupet lagoon is available for setting up of a centre to study and demonstrate technology integrating mangrove ecosystem and coastal aquaculture. The cluster of aquaculture farms around Muthupet requires continuous monitoring by Research Institute like TANUVAS. To sustain the aquaculture growth and development further, the farmers and scientific community in the State can also utilize the facility for further adoption.

**Budget : Rs. 50.00 lakhs**

**Background / Problem Focus**

Due to the set backs encountered in shrimp farming there is a dire need to focus research integrating the ecological and economical perspectives of coastal aquaculture. This project focuses on evolving a technology factoring in the sustainability issue of coastal aquaculture.

**Project Rationale**

- Present shrimp production level is 1500 kg. / ha. / year.
- By the scientific intervention it would help enhancing the production to 3000 kg. / ha. this free shrimp and can be sustained.
- The present fish production rate of 2000 kg. / ha. to be enhanced to 4000 kg. / ha. through semi-intensive fish culture practices



### Project Strategy

Since TANUVAS has adequate man power and machinery to execute this project it can constantly monitor the impact and returns of this project so that the technologies evolved will be sustainable.

### Project Goals

- To get aquaculture returns from coastal area on a sustainable rate
- To conserve the resources accommodating production activities

#### Project components

- Fish and shrimp farming
- Planting of mangroves in possible buffer zones

### Project Cost and Financing

Demonstration Unit (Farm)	:	Rs.20.00 lakhs
Equipments cost	:	Rs.10.00 lakhs
Recurring cost	:	Rs.20.00 lakh (Rs.5.00 lakh / year)
Total cost	:	Rs. 50 lakhs

### Project Implementation Chart

Particulars	2008-09	2009-10	2010-11	2011-12
Establishment of farm, cage, pens, introduction of crab, shrimp and fish seeds				
			√	
				√

### Reporting

The project will be implemented and evaluated by TANUVAS.

## **10. Optimization of Yield and Technical Efficiency for Enhancing Fish Production**

### **Abstract**

The overall objective of this project is to evolve and facilitate implementation of optimal farm production plans in the potential districts so as to enhance the output of farmed fish from aquaculture in freshwater, brackishwater and marine waters such that the contribution of fisheries to the state GDP is increased besides augmenting fish production, generating additional employment opportunities and ensuring livelihood and nutritional security of our farmers.

**Budget : Rs. 15.00 lakhs**

### **Background**

Aquaculture seems to hold the key to boost fish production. However, the crux of the issue of carp culture development is the low average yield of about 15 % of the highest yield obtained indicating a wide yield gap. It is argued that by bridging the gap between the maximum possible yield and the average fish farm yield would help boost fish production significantly. Technical efficiency studies showed that there exists vast scope for enhancing the yield of farm - raised carps without additional investments and with the same technology in areas where homogenous production and marketing factors prevailed. Similarly, it is possible to enhance yield of farmed shrimps and prawns by improving technical efficiency of the fish farmers.

### **Project Strategy**

Cauvery Delta Zone consisting of Thanjavur, Nagaipattinam, Thiruvarur and Pudukkottai districts is the rice bowl of the state. It is the only region in the state where carp culture in dug-out ponds is adopted on a wide scale. Although little data are available on the contribution of the region to aquaculture production in the state, the share of the region would be high as it is endowed with the largest number of freshwater resources like ponds, irrigation tanks, lakes and canals, besides the largest number of fish farms also exist in the region. Hence, any improvement in aquaculture production in the region would significantly contribute to the overall aquaculture production in the state.

### **Project Goal**

The overall objective of this project is to evolve and facilitate implementation of optimal farm production plans in the potential districts so as to enhance the output of farmed fish from aquaculture in freshwater, brackish water and marine waters such that the contribution of fisheries to the state GDP is increased besides augmenting fish production, generating additional employment opportunities and ensuring livelihood and nutritional security of our farmers. Stated specifically the objectives could be classified into the following:

1. To assess the status of shrimp farming practices in Thiruvarur district of Tamil Nadu
2. To estimate yield – gaps, identify reasons for them and analyze resource use - efficiency in the shrimp aquaculture system.
3. To evolve optimum farm production plans for the district and assess their impacts on the average yield realized by fish farmers
4. To enhance marketing of farmed carps through suitable and aggressive marketing strategies through forward and backward linkages in the study area
5. To identify resource, production, marketing, management and extension constraints on carp culture development and formulate policy guidelines for carp culture development in the study region.

### **Project Component**

The project technical work consists of the following phases

- (i) Collection of data
- (ii) Estimation of the economics of aquaculture
- (iii) Identification of production variables
- (iv) Formulation of optimal production plan in consultation with the fish farmers,
- (v) Studying marketing of farmed carps,
- (vi) Identification of levels of knowledge of the fish farmers and conducting training on specific areas of skill requirement for capacity building ,
- (vii) Identifying the various constraints to aquaculture development and Evolving strategies for overcoming the various constraints

### Project Cost and Financing

Item	Rate/Number	Total (Rs.lakhs)	
		1 year	Total
JRF pay	Rs.8000/pm per person for 4 persons	3.84	3.84
TA	LS	1.16	1.16
Recurring contingency	LS	6.00	6.00
Non-Recurring contingency	LS	4.00	4.00
<b>Total</b>		<b>15.00</b>	<b>15.00</b>

The project cost per district is Rs. 15.00 lakhs approximately. The entire cost is to be met under NADP

### Implementation Chart

The project would be implemented as explained under project component section

Sl. No	Activity	2008-09	2009-10	2010-11	2011-12
1	Collection of data	√	√		
2	Estimation of the economics of aquaculture techniques			√	
3	Identification of production variables that influence			√	
4	Formulation of optimal production plan			√	
5	Studying marketing of farmed carps				√
6	Identification of levels of knowledge of the fish farmers and conducting training				√
7	Identifying the various constraints and Evolving strategies				√

### Reporting

Periodical review of the scheme activities would be done by the Director of Research and Extension (Fisheries), TANUVAS.

## **11. Development of Ornamental and Algal Culture Unit**

### **Abstract**

Development of ornamental fish breeding and algal culture units are important for sustainable production of ornamental fishes and their export. The district Thiruvarur has enormous water source for undertaking breeding, culture and production of aquarium fishes. Fish live feed, the micro algae serves as basic nutrient source. Hence culture of micro algae like spirulina, and similar green plankton organisms could help improving the growth and immune response of aquaculture fishing.

**Budget : Rs. 30.00 lakhs**

### **Background / Problem Focus**

Successful ornamental fish breeding and production rely upon the production of natural food. Shortage of larval feed like algal food is the main problem for the further development of ornamental fish production. Hence this project proposal assumes importance.

### **Project Rationale**

- ❖ To establish a model ornamental fish culture and aquaculture unit
- ❖ To provide basic input, -- for taking ornamental fish culture work
- ❖ To stock broad fishes of 6 species like goldfish, koir, ornamental cichlids, barbs and live bearing fish species.
- ❖ To improve the fish feed by sustaining over to algae production.
- ❖ To make aware of the practical activities.

### **Project Strategy**

Establishment of ornamental fish breeding and algal culture units.

### **Project Goals**

- ❖ To breed high value ornamental fishes
- ❖ To produce algal food

**Project Components**

- ❖ Ornamental fish unit
- ❖ Algal culture unit

**Project Cost and Financing**

Sl. No.	Particulars	Amount
a.	Cost of tanks and raceway systems for rearing	Rs.10,00,000.00
b.	Cost of live feed culture unit a demo units	Rs. 5,00,000.00
c.	Cost of Lab equipments and advanced molecular for diagnostic tools for genetic alter ration and hybridization	Rs.15,00,000.00
	<b>TOTAL</b>	<b>Rs.30,00,000.00</b>

**Implementation Chart**

S.No	Particulars	2008-09	2009-10	2010-11	2011-12
1.	Establishment of ornamental fish breeding unit	√			
2.	Development of algal culture facility	√			
3.	Breeding of ornamental fishes		√	√	√
4.	Culture of algae		√	√	√

**Reporting**

The University higher authorities will monitor the progress of project.

**Table. 6.82 Fisheries Sector – Budget Details for four years – 2008-2012**

(Rs.in lakhs)

Sl. No	Components	Implementing Agency	Total units	Unit cost	2008-09		2009-10		2010-11		2011-12		Total cost
					Units	cost	Units	cost	Units	cost	Units	cost	
1	Subsidy assistance to private fish seed rearing / fish seed production (50% subsidy)	Fisheries Department	30	5.00	10	50.00	10	50.00	10	50.00			150.00
2	Expansion of fish culture in hither to unutilized water bodies by stocking (50% subsidy)	Fisheries Department	2000ha	0.0125	500ha	6.25	500	6.25	500	6.25	500	6.25	25.00
3	To sustain / retain the existing infrastructure facility (pond under culture) for aquaculture (25%subsidy)	Fisheries Department	1000ha	0.3000	300ha	90	300	90	300	90	100	30	300.00
4	To provide subsidy for the provision of moped with ice box for fish marketing (50% subsidy)	TAFCOFED	30	0.15	10	1.50	10	1.50	10	1.50			4.50
5	Provision of subsidy for the purchase of drag net (50%subsidy)	Fisheries Department	300	0.10	100	10.00	100	10.00	100	10.00			30.00

Sl. No	Components	Implementing Agency	Total units	Unit cost	2008-09		2009-10		2010-11		2011-12		Total cost
					Units	cost	Units	cost	Units	cost	Units	cost	
6	Sea ranching for stock enhancement	Fisheries Department	10	2.60/1millionseed	3	7.80	3	7.80	4	10.40			26.00
			2	1lakh crabseed / unit	1.00	2.00	1	2.00					4.00
7	Establishment of integrated aquaculture	Fisheries Department	50	0.20	10.00	2.00	20	4.00	10	2.00	10	2.00	10.00
<b>Fisheries Total</b>						<b>169.55</b>		<b>171.55</b>		<b>170.15</b>		<b>38.25</b>	<b>549.50</b>
1	Capacity building by imparting training to farmers	TANUVAS	300.00	0.01	100	1.00	100	1.00	100	1.00			3.00
2	Demonstration unit at Muthupet	TANUVAS	1.00	50.00	1	50.00							50.00
3	Optimization of yield and technical efficiency for enhancing fish production	TANUVAS	1.00	15.00	1	15.00							15.00
4	Development of Ornamental fish and Algal culture unit	TANUVAS	1.00	30.00	1	30.00							30.00
<b>TANUVAS - Total</b>						<b>96.00</b>		<b>1.00</b>		<b>1.00</b>			<b>98.00</b>
<b>Grand Total</b>						<b>265.55</b>		<b>172.55</b>		<b>171.15</b>		<b>38.25</b>	<b>647.50</b>



**6.5 Agricultural Engineering****Stream – 1****Table 6.83 Introduction of Newly Developed Agricultural Machineries / Implements  
Year- wise physical target****(Unit)**

Sl.No	Project Component	2008-09	2009-10	2010-11	2011-12	Total
1	Mini Combined Harvester TNAU model	14	13	11	13	51
2.	Multi crop thrasher	2	3	3	3	11
3	Power Weeder with attachment (all models)	4	7	7	4	22
4	Power Thrasher	45	42	44	46	177
5	Paddy Transplanter	10	12	13	13	48
6	Post hole Digger	2	4	1	4	11
7	Shredder (medium)	1	-	-	-	1
8	Coconut De-husker	4	3	3	3	13
9	Power –oleo mac	1	1	1	1	4
10	Ratoon manager	1	1	-	1	3
11	Multi crop thrasher (tractor PTO )	6	6	5	5	22
12	Knapsac Power operated Hydraulic Sprayer	20	15	16	20	71
13	power operated chaffs cutter	1	-	-	-	1

**Table 6.83 Contd...**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
14	Japanese Yanmer 6- Row Transplanter with nursery raising system	2	3	3	1	9
15	Japanese Yanmer 8- Row Transplanter with nursery raising system	1	1	-	-	2
16	Korean 4 row walk behind Transplanter	4	5	5	3	17
17	Compained harvester – Tractor operated	3	3	2	3	11
18	Combined harvester –self propelled ( rubber tack type)	2	5	4	2	13
19	Mini combined harvester with transplanter attachment (prime mover power tiller)	140	150	140	150	580
20	Gender friendly equipments	900	950	950	900	3700
<b>Total</b>		<b>1163</b>	<b>1224</b>	<b>1208</b>	<b>1172</b>	<b>4767</b>

**Table 6.84 Budget abstract for Newly Developed Agricultural Machinery****(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Introduction of Newly Developed Agricultural Machineries/ Implementss	424.83	478.74	437.63	438.06s	1794.41

### **6.5.1 Introduction of Newly Developed Agricultural Machinery**

#### **(i) Background / Problem Focus**

Thiruvarur is the tail end district of the Cauvery Delta region. Here the farmers are cultivating paddy and pulses for many decades. Few farmers are cultivating Sugarcane, Oil seeds, Millets also.

At present, farmers are not able to cultivate their entire land holdings due to scarcity of labour especially women agricultural labourers. Due to the huge development of Self Help Groups in Thiruvarur District, Women labourers are diverted from Agricultural Work to other works like Handicrafts and other works of Self Help Group motivation. Few years ago Agricultural Labourers in Thiruvarur District were opposed to engage machineries for farm works but nowadays, due to labour scarcity labourers themselves insist to engage Agricultural Machineries along with their works.

#### **(ii) Project Rationale**

Due to non-availability of Farm Labourers, Tiruvarur District Agricultural activity needs introduction of newly developed Agricultural Machineries and farm implements, which are invented by the TNAU and other sources. Traditional method of cultivation requires lot of labourers which costs more when compared to the cost of cultivation using machineries. Farm activities can be made easy by utilizing the Agricultural Machinery like Paddy Transplanter, Weeder, Mini Combined Harvester, Multi Crop Thrasher etc. Cost of cultivation can be minimized by engaging Agricultural Machineries. So that farmers will get some profit by reducing the cost of cultivation even upto 50 per cent.

#### **(iii) Project Strategy**

At this juncture, Agricultural Mechanization is a must for the individual farmers, according to their land holding size. Farmers are economically weak and they are not able to buy these Agricultural Machineries and Equipments. Under this project the mechaneries will be supplied for subsidy rate.

**(iv) Project Goals**

1. To increase the cultivable Agricultural area
2. Agricultural activities can be made fast with the help of the newly developed modern Agricultural Machineries and Implements.
3. By using these New Machineries and Implements, the mind set and Interest of the Farmers could be developed in doing agriculture as an industrial approach.
4. To overcome scarcity of Farm Labourers.
5. Cost of cultivation can be reduced to 50 per cent due to Agricultural Mechanization
6. Farmers will get more profit by doing Agriculture through Mechanization.
7. By implementing the Agricultural Mechanization, the Cultivation works could be completed in time and the production loss may be avoided. The production may be raised up to 20 per cent
8. The harvesting will be completed in time and the grain loss may be reduced up to 20 per cent

**(v) Project Components**

50 per cent Subsidy will be given to the farmers for the following components of Newly Developed Agricultural Machineries and Implements.

1. Mini Combined Harvester TNAU model.
2. Power Weeder with attachments.
3. Power Thrasher
4. Paddy Transplanter
5. Post Hole Digger
6. Power operated Hydraulic Sprayer
7. Japanese Yanmer – 6 row Transplants with nursery etc.
8. Korean 4 row walk behind Transplanter.
9. Combined Harvester - Tractor operated.

75 per cent Subsidy will be given to farmers for Gender Friendly Equipments.

**(vi) Project Cost and Financing****Table 6.85 Newly Developed Agricultural Machinery – Subsidy details****(Rupees in Lakhs)**

<b>Sl.No</b>	<b>Project component</b>	<b>Unit Cost</b>	<b>Subsidy pattern</b>	<b>Total No</b>	<b>Subsidy Amount</b>
1.	Mini Combined Harvester TNAU model	2.50	50 per cent	51	61.25
2.	Power Weeder with attachment (all models)	1.00	50 per cent	22	11.0
3.	Power Thrasher	1.00	50 per cent	177	88.50
4.	Paddy Transplanter	1.40	50 per cent	48	33.60
5.	Post hole Digger	0.86	50 per cent	11	4.70
6.	Shredder (medium)	1.00	50 per cent	1	0.20
7.	Coconut De-husker	0.60	50 per cent	13	3.90
8.	Power weeder –oleo mac	0.65	50 per cent	4	1.30
9.	Ratoon manager	1.00	50 per cent	3	1.50
10.	Multi crop thrasher (tractor PTO )	1.25	50 per cent	22	13.76
11.	Knapsac Power operated Hydraulic Sprayer	0.20	50 per cent	71	7.10
12.	power operated chaffs cutter	0.30	50 per cent	1	0.15
13.	Japanese Yanmer 6- Row Transplanter with nursery raising system	7.50	50 per cent	9	33.75
14.	Japanese Yanmer 8- Row Transplanter with nursery raising system	10.50	50 per cent	2	10.50
15.	Korean 4 row walk behind Transplanter	2.00	50 per cent	17	17.00
16.	Combained harvester – Tractor operated	12.00	50 per cent	11	66.00
17.	Combined harvester –self propelled ( rubber tack type)	16.00	50 per cent	13	104.00
18.	Multi crop thrasher ( high capacity)	2.10	50 per cent	11	11.55
19.	Mini combined harvester with transplanter attachment (prime mover power tiller)	2.50	75 per cent	580	1087.50
20.	Gender friendly equipments	0.08	75 per cent	3700	222.00
<b>Total</b>				<b>4767</b>	<b>1779.08</b>

**(vii) Implementation Chart of the Project**

Agricultural Engineering Department will implement the project.

**(viii) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

**Stream – 1****6.5.2 Control of Sea Water Intrusion by Recharge Shafts****(i) Abstract**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Recharge Shafts to prevent sea water intrusion in coastal areas(Nos)	160	160	140	140	600

**(ii) Budget**

**Table 6.86 Budget Details for Control of Sea Water Intrusion by Recharge Shafts**  
(Rupees in Lakhs)

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Recharge Shafts to prevent sea water intrusion in coastal areas	80.00	80.00	70.00	70.00	300

**(iii) Background / Problem Focus**

Complete Tiruvarur district is having alluvial clay soil which is having poor infiltration rate. Hence during rainy season, surface run off is more and the rain water completely drains into sea. Moreover farmers are utilizing their filter point bore wells for cultivation. Due to over exploitation of Ground water, water level gets depleted, which results in sea water intrusion.

**(iv) Project Rationale**

Sea water intrusion or movement of sea water towards land increases day by day. It is increasing due to difference in density of sea water to good ground water.

When a farmer is digging a bore well with huge cost he is getting salt water in his bore well which is unsuitable for irrigation. Hence definitely sea water intrusion has to be stopped.

**(v) Project Strategy**

Water recharging and water harvesting improves the quality of ground water and prevents sea water intrusion. Minor Irrigation is one of the key infrastructures required to augment food production. In view of the uncertainty in the availability of surface water resources in Tiruvarur District from cauvery and its net work canals development of ground water through minor irrigation structures, attains paramount importance for the development of Agriculture. Saline water ingress has affected two blocks viz. Muthupettai and Thiruthuraipoondi blocks. Sea water intrusion has to be controlled and it is the need of the hour also.

**(vi) Project Goals**

By constructing Recharge shaft prevention of sea water intrusion in coasted areas can be achieved. Following are the project goals.

Improving the ground water quality and get good irrigation water.

Farmers will get good ground water from their bore wells.

Surface runoff water can be effectively used to recharge the ground water potential.

Flood damages (or) Flood havoc can be reduced due to the artificial recharge shafts.

**(vii) Project Components**

Recharge shafts (i.e.) Recharge Bore wells will be constructed to a medium depth in village tanks to collect excess run off rain water and thereby recharging the water bearing strata. It improves the ground water quantity and quality. Recharge shaft is the project component.

**(viii) Project Cost and financing**

100 per cent subsidy is given to this project component (ie) Recharge shaft due to its need of the hour for the Agriculture in coastal block areas. During 2008-09, 2009-2010, 2010-2011, 2011-2012 Four years totally 120 recharge shafts have to be dug @ cost of 300 Lakhs (ie) cost of each recharge shaft in Rs.0.50 shaft.

**(ix) Implementation chart of the project**

Agricultural Engineering Department will implement this project by giving 100 per cent subsidy to construction of Recharge shafts to prevent sea water intrusion in coastal areas.

**(x) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

**6.5.3 Promoting the Concept of Mechanized Village****(i) Abstract**

Sl.No	Project Component	2008-09	2009-10	2010-11	2011-12	Total
1	Distribution of crop based package of Agricultural Machinery in the adopted villages for paddy crop	5	5	5	5	20



**(ii) Budget****Table 6.87 Budget details for Distribution of Crop based Agricultural Machinery  
(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Distribution of crop based package of Agricultural Machinery in the adopted villages for paddy crop.	118.7925	118.7925	118.7925	118.7925	475.1715

**(i) Background / Problem Focus**

Every year population increases by 6 per cent and Cultivable lands gets reduces by 2 per cent. Every year due to urbanization farms are converted into Housing Plots, Industrial State and Lands affected by Alkaline and Saline due to water logging. And due to labour scarcity some of the lands are not utilized for cultivation (put into fallow lands).

It is very essential to increase at least 5 per cent Agricultural Productivity to compensate the population growth and reduction of gross cultivable land areas.

Tiruvarur District is situated in the tail end of the Cauvery Delta and it is also a coastal district. In Tiruvarur District mostly the crop production is Paddy. To compare with other occupations, the income from Agriculture in Tiruvarur District is low, the income of the Agricultural labourers is very low, hence the agricultural labourers are not interested in agricultural activities and they started migrating to Cities and Towns to earn more. 10 years ago Agricultural labourers in Thiruvarur District were opposed to engage machineries for farm works but today due to labour scarcity, labourers themselves insists to engage machineries as their work part. Moreover due to the huge development of Self Help Groups in Thiruvarur District the women labourers are diverted to other works like handicraft works and there is a scarcity for women labour for planting works and picking weeds. Due to scarcity of women labourers, transplanting is delayed with aged nursery which leads to fewer yields. And also there is a great demand for labourers during harvesting season and harvesting could not be taken up in time leading to grain losses and production reduced up to 20 per cent.

**(ii) Project Rationale**

Due to scarcity of Agricultural labourers in Thiruvarur District there is a need to introduce newly developed Agricultural Machineries and Farm implements, which are invented by the TNAU and other resources. Traditional method of Land preparation, Planting, Harvesting and all other farm activities requires lot of labourers which costs more and takes more time when compared to the cost of cultivation using the machineries. Farm activities can be done easily by engaging the Agricultural Machinery like Power Tiller, Paddy Transplanter, Weeder, Combined Harvester, Multi Crop Thrasher etc. The cost of cultivation and the time can be minimized by engaging Agricultural Machineries and all the works could be carried out in time which will lead to increase in production and the production losses can be reduced. The farmers will get more profit by reducing the cost of cultivation using labourers.

The Government introduces schemes like AGAMT to develop the villages by implementing many scheme and adopted villages by the Institutions are assisted with, finance for the development diary and handicrafts. The aim is to develop the particular villages by implementing all schemes to get awareness among the people in the neighboring villages. Just like that, selecting the villages having awareness about the mechanized farm activities all the machineries orienting in one village with the Farmer councils formed by the AED or newly formed farmer groups should improve the economic status of the village and the farmers.

This is a pilot project to promote Agricultural Mechanisation in the villages and promote awareness among the neighbouring and other villages to utilize Agricultural Machineries in their farm activities and to increase production upto 10 per cent.

**(iii) Project Strategy**

At this juncture, Agricultural Mechanisation is very essential for farm activities. Due to the Natural calamities the farmers are affected every year and they are economically poor and they are not able to purchase the Agricultural Machineries and Implements. By promoting the Mechanised Village the fallow lands will be put into cultivation and the increase in production will be achieved.

**(iv) Project Goals**

1. To increase the Cultivable Agricultural Area
2. To speed up the Agricultural activities with the help of the newly developed modern Agricultural Machineries and Implements.
3. By using these New Machineries and Implements, the mind set and Interest of the Farmers will be increased in doing agricultural activities with an industrial approach.
4. To overcome the Scarcity of Farm Labourers.
5. To reduce the cost of cultivation by 50 per cent by implementing Agricultural Mechanization.
6. To get more profit by the farming community through Agricultural Mechanization.
7. By introducing Agricultural mechanization the Cultivation works can be completed in time and the production loss may be avoided when using the aged nursery plants due to scarcity of women laborers for planting. The production may be raised upto 20 per cent
8. To complete the harvest in time and reduce the grain loss upto 20 per cent.
9. The integration and inter relationship among the farmers will be improved.

**(v) Project Component**

With 75 per cent Subsidy the following Newly Developed Agricultural Machineries and Implements will be supplied.

1. Light Weight Whole Straw Combine Harvester
2. Paddy Transplanter
3. Power Tiller
4. Rotavators for Tractors
5. Rotary Puddler for Tractors
6. Post Hole Digger
7. Floating Cono Weeder
8. Rotary Weeder single row
9. Rotary Weeder Two Bar
10. Drum Seeder
11. Marker

**(vi) Project Cost and Financing****Table 6.88 Budget for Newly Developed Agricultural Machinery****(Rupees in Lakhs)**

Sl.No	Project component	Package Cost	Subsidy pattern	Total Nos	Subsidy Amount
1	Light Weight Whole Straw Combine Harvester	31.68	75 per cent	20	475.1715
2	Paddy Transplanter				
3	Power Tiller				
4	Rotavators for Tractors				
5	Rotary Puddler for Tractors				
6	Post Hole Digger				
7	Floating Cono Weeder				
8	Rotary Weeder single row & Two row				
9	Drum Seeder and Marker				

**(vii) Implementation Chart of the Project**

Agricultural Engineering Department will implement the project by giving the Package of Newly Developed Agriculture Machines and Implements with subsidy.

**(viii) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government and Private Agencies.

### 6.5.4 Construction of Bore wells and Energisation

#### (i) Abstract

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Construction of Bore wells and Energisation. (No.)	200	200	200	200	800

#### (ii) Budget

**Table 6.89 Budget details for Construction of Bore well**

(Rupees in Lakhs)

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Construction of Bore wells and Energisation..	360.00	360.00	360.00	360.00	1440.00

#### (i) Background / Problem Focus

Thiruvarur District comprises more of marginal and small farmers. They are depending on Mettur water for the Kuruvai crop; otherwise they are keeping their lands as fallow due to their poor economic status. If the Mettur Dam water is not released in time they are not able to start their initial farming activities like ploughing, buddling, and nursery raising without minor Irrigation source like Bore wells at their field. so the farmers used to get water by paying some amount for their initial irrigation from the nearby big farmer's bore well.

#### (ii) Project Rationale

Marginal and small farmers are dependent on Mettur water through canals which is an affecting factor like agro climatic and inter state relations etc.

Farmers are spending a considerable amount in getting irrigation water from the nearby big farmer's irrigation source ie bore well or Tube well. Minor Irrigation water through Bore wells is very much essential for the farmers to plan cultivation, to raise nursery bed etc, Minor Irrigation water is the key infrastructure for good food production.

**(iii) Project Strategy**

Farmers with their small land holdings at the tail end of the Cauvery canal, which is not viable for the assured water supply from the canals is very much uncertain to plan cultivation. He has to develop a Minor Irrigation infrastructure ie borewell and to energise fully and then only farmer has to use it through free electricity.

**(iv) Project Goals**

1. To bring more area under cultivation without leaving the lands for want of irrigation source.
2. To improve the farmers economic status by helping them by providing irrigation water at the initial farming activities and also for life watering if there is a shortfall in canal irrigation.
3. To improve the National Food production.

**(v) Project Components**

Construction of bore wells at the Farmers land  
Energisation of bore well

**(vi) Implementation Chart of the Project**

Agricultural Engineering Department will implement this project by giving 90per cent subsidy to construct of Bore wells and Energisation.

**(vii) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

### 6.5.5 Formation of Farm Roads

#### (i) Abstract

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Formation of Farm Roads (km)	97	92	82	92	363

#### (ii) Budget

**Table 6.90 Budget details for Formation of Farm Roads**

(Rupees in lakhs)

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Formation of Farm Roads	291.00	276.00	246.00	276.00	1089.00

#### (iii) Background / Problem Focus

In Thiruvarur District the agriculture lands are in compact shape having the radius of more than 3 kms. There no approach roads to convey the inputs like fertilizer seeds etc and also in harvesting time the farmers are facing many difficulties to convey their agriculture products from their field to main roads. The farmers take their agriculture inputs and the grains by head-load only. They have to spend more for transportation of seedlings. The farmer has to spend more money for the labourers. The labourers are demanding more money according to the distance from the field to the near by road. During transportation, there is a quantum loss of inputs and the un-thrashed grains.

#### (iv) Project Rationale

- i) The farmers can cultivate the entire land holdings since they can transport the inputs easily to their fields and they can get back their harvested produce to their home.
- ii) Farmers can easily transport their Agricultural machinery to their land holdings easily.

- iii) Farmers can save nearly 75 per cent of expenditure in conveyance if the farm roads are formed.
- iv) Wastage of grains can be minimized.
- v) More areas can be brought under cultivations.

#### **(iv) Project Strategy**

By the provision of farm roads farmers can easily get into their field for farm work. Labourers can do their work without any hardship. Farm roads provide easy accessibility sometimes which also acts as a interlinked road between villages. The value of farm land gets increased.

#### **(v) Project Goals**

- i) More area can be brought under cultivation
- ii) Cost of cultivation can be minimized
- iii) Time can be saved to a considerable extent.

#### **(vi) Project Component**

Formation of farm roads in the farm lands.

#### **(vii) Project Cost and Financing**

(Rupees in Lakhs)

<b>Sl.No.</b>	<b>Project component</b>	<b>Unit Cost</b>	<b>Subsidy pattern</b>	<b>Total Nos</b>	<b>Subsidy Amount</b>
1.	Formation of Farm-Roads	3.00	100per cent	363	1089

#### **(viii) Implementation Chart of the Project**

Agricultural Engineering department will implement the project by giving 100per cent subsidy to the formation of farm road.



**(ix) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

**6.5.6 Remodeling of Irrigation / Drainage Channels****(i) Abstract**

Sl.No.	Project component	2008-09	2009-10	2010-11	2011-12	Total
1.	Remodeling of Irrigation / Drainage Channels	330	305	305	310	1250.00

**(ii) Budget****Table 6.91 Budget Details for Remodelling of Irrigation Channals****(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Remodeling of Irrigation / Drainage Channels	330	305	305	310	1250.00

**(iii) Background**

In Thiruvarur Disdtrict the PLP document had estimated that an area of 2, 22,700 Ha would be covered by various crops during 2007-08. The land holding pattern shows that about 60 percent of the net cropped area in the district is held by small and marginal farmers with a land holding up to 2 ha. 1, 55,000 ha of Paddy are being cultivated only with the help of Cauvery water. All the Irrigation channels such as B, C, and D are not maintained properly. All the channels are covered with IPOMEA. In some places the channels are encroached by the adjoining landowner, which causes the narrow cross-section of channel. The tail end farmers are not able to get sufficient water for irrigation. The entire area is having a mild slope. During the rainy season the farmers are not able to drain the flood water within two days.

**(iv) Project Rationale**

If all the Irrigation and Drainage channels are desilted and maintain the cross section of the Channels to the required size, there is no problem for irrigation as well as drainage of excess rain water. The water can be conveyed very easily and water conveyance loss will be minimized. And then only the farmers can cultivate the entire area. There by farmers can get increased in food production.

By remodeling of drainage channels the farmer can easily drain the water within a day or two and crop submergence can be avoided. Thereby the farmer can get the yield without any loss.

**(v) Project Strategy**

All the irrigation channels which are in dilapidated condition will be remodeled so as to carry sufficient water for irrigation. All the weeds such as IPOMEA will be removed. The water can flow without any hindrances.

**(vi) Project Goals**

More area will be brought under cultivation. The velocity of water will be more So the farmer can get water in a short time. Carrying capacity of channel will be improved. National food production will be improved.

**(vii) Project Component**

1. Remodeling of irrigation channel- All the B, C, D irrigation channels will be remodeled according to the designed capacity.
2. Remodeling of drainage channel:- All the drainage channels will be renovated and the weeds will also be removed.

**(viii) Project Cost and Financing****(Rupees in Lakhs)**

Sl.No.	Project component	Unit Cost	Subsidy pattern	Total Nos	Subsidy Amount
1.	Remodeling of Irrigation / Drainage Channel	1.00	100per cent	1250	1250.00

**(ix) Implementation Chart of the project**

Agricultural Engineering department will implement the project of giving 100 per cent subsidy to the formation of farm road.

**(x) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

**6.5.7 Construction of Drying Yard/ Thrashing Floors****(i) Abstract****(Nos.)**

Sl.No.	Project component	2008-09	2009-10	2010-11	2011-12	Total
1.	Construction of Drying-yards	50	58	52	56	216
2.	Construction of Thrashing Floors	77	77	79	79	312
<b>Total</b>		<b>127</b>	<b>135</b>	<b>131</b>	<b>135</b>	<b>528</b>

**(ii) Budget****Table 6.92 Budget details for the Construction of Drying Yard****(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Construction of Drying- yard	137.50	159.50	143.00	154.00	594.00
2	Construction of Thrashing Floors	77.0	77.0	79.0	79.0	312.00
<b>Total</b>		<b>214.5</b>	<b>236.5</b>	<b>222.0</b>	<b>233.0</b>	<b>906</b>

**(iii) Background / Problem Focus**

In Thiruvarur District many of the villages are facing severe problem during harvesting season, as they do not have proper places for drying and thrashing their harvested paddy which are in the interior mid fields and not even space to keep harvested paddy in bundles. Farm labourers have to carry the harvested paddy bundles on their head load over 2-3 kms away from the harvested field and farmers are thrashing the harvested paddy on the State Highways Road. It causes many problems to vehicular traffic and food grains loss up-to 10-15per cent. Each and every village almost faces the problem of certain extent of area.

**(iv) Project Rationale**

Many of the villages in Thiruvarur district do not have dry places to keep the harvested paddy. Then, for the thrashing and drying of their harvested paddy it is essential to construct the Thrashing floor and Drying yards to minimize the loss of food grains and accidents on Roads.

**(v) Project Strategy**

According to the need thrashing floors will be constructed in villages.

**(vi) Project Goals**

By constructing Thrashing floor and drying yard, the time and labour charge will be saved. Thrashing will be effectively done and saving of food grain loss is felt. Drying yards are most useful for the farmers to thrash the paddy and other crops using machinery thrashing efficiently. Food grain loss is very minimum. All seeds will be dried in the drying yard. Farm labour cost is much reduced by avoiding transportation of harvested paddy over a long distance by head load.

**(vii) Project Components**

1. Construction of Thrashing Floors
2. Construction of Drying Yards

**(vii) Project Cost and Financing****(Rupees in Lakhs)**

Sl.No	Project component	Unit Cost	Subsidy pattern	Total Nos.	Subsidy Amount
1	Construction of Drying Yard	2.75	100 per cent	216	594.00
2	Construction of Thrashing Floor	1.00	100 per cent	312	312.00
<b>Total</b>				<b>528</b>	<b>906.00</b>

**(viii) Implementation Chart of the Project**

Agricultural Engineering department will implement the project of giving 100per cent subsidy to the formation of farm road.

**(ix) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government and Private Agencies.

### 6.5.8 Ground Water Recharge Structure Cum Fish Pond

#### (i) Abstract

(Nos.)

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Construction of Ground recharge structure cum fish pond (No.)	172	202	177	192	743

#### (ii) Budget

**Table 6.93 Budget details of Ground Water Recharge Structure  
(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Construction of Ground recharge structure cum fish pond	172.00	202.00	177.00	192.00	743.00

#### (iii) Background / Problem Focus

During peak rainy season (ie) North East monsoon rainfall heavy, is occurring in Thiruvarur district and most of the rain water drains into drainage channels and then to sea, by waste. Run off management is essential to save the rainwater effectively to recharge the ground water.

#### (iv) Project Rationale

Run off rain water drains into sea, without any purpose. Due to global warming problem of the earth, rainfall becomes erratic and quantity of rainfall is also reduced. Hence, it is the need of the hour, to conserve rain water through fish pond. Pure rain water is harvested at the surface level and to impound through a pond and thereby ground water will also recharged.

#### (v) Project Strategy

By constructing fish pond in the farmer's field good rain water is harvested through fish pond. Fish pond is located at the lower part of the field and if possible fish

bond is located nearer to the bore well. Pumping water level of the bore well is maintained indirectly through the effect of the fish pond .Moreover ground water is recharged due to the impounding of water and slowly it percolates into the soil and recharges the aquifer, ground water is recharged considerably. During excavation of new Fish pond a considerable quantum of fertile soil will be excavated and that soil can be used to raise the field. In that field Horticulture crop can be raised.

#### **(vi) Project Goals**

Farmers definitely know the importance of good rain water to conserve and use it at-least for one assured crop production. It is necessary to construct a fish pond at the farmer's field for the following purposes.

- ❖ Ground water will be recharged and surrounding bore wells pumping water level maintained.
- ❖ To add more income to the poor farmers by Fish culture. By experience it is felt that in each Fish pond a farmer can earn up to Rs 30,000/- per annum.
- ❖ To improve the Economic status of the farmers by alternate crop like vegetables, fruits etc.

#### **(vii) Project Components**

Ground water recharge structure cum fish pond has to be constructed and the farmer is getting multipurpose benefit out of it.

#### **(viii) Project Cost and Financing**

**(Rupees in Lakhs)**

<b>Sl.No</b>	<b>Project component</b>	<b>Unit Cost</b>	<b>Subsidy pattern</b>	<b>Total Nos.</b>	<b>Subsidy Amount</b>
1	Construction of Ground Recharge Structure cum Fish ponds	1.00	100per cent	743	743.00

**(ix) Implementation Chart of the Project**

Agricultural Engineering department will implement the project of giving 100per cent subsidy to the formation of farm road.

**(x) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

**6.5.9 Moisture Conservation by Summer Ploughing****(i) Abstract**

Sl.No.	Project component	2008-09	2009-10	2010-11	2011-12	Total
1.	Moisture conservation by summer ploughing	4500	4600	4500	4500	18100

**(ii) Budget****Table 6.94 Budget details for Moisture Conservation by Summer Ploughing****(Rupees in Lakhs)**

Sl. No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Moisture conservation by summer ploughing	33.75	34.50	33.75	33.75	135.75

**(iii) Background / Problem Focus**

During summer, the farmer's field is hard and summer rain could not be effectively harvested. Micro organisms also not available in the hard pan of the soil.

**(iv) Project Rationale**

Micro organisms and Bio-mechanism are completely destroyed during summer, which needs to feed through micro organisms artificially. Summer rain and moisture could not be harvested due to the hard pan of the soil.



**(v) Project Strategy**

Summer rain and moisture would have to be effectively utilized by summer ploughing. Micro organism is completely destroyed in the hard pan of soil which needs summer ploughing for micro organisms.

**(vi) Project Goals**

1. Summer Ploughing is essential for soil moisture conservation
2. Summer Showers can be effectively harvested through summer ploughing.
3. Soil Fertility and soil aeration can be improved through summer ploughing
4. Pests Larvas should be destroyed
5. Wet Ploughing cost and water requirement is less.
6. Summer Ploughing controls Weed growth.
7. Homogeneity of the soil will be maintained

**(vii) Project Component**

Summer ploughing to a depth of 6” to 8” for efficient soil and Moisture Conservations in the field.

**(viii) Project Cost and Financing**

Sl.No.	Component	Unit Cost	Total No. of Works	Total Cost	Subsidy Pattern	Total subsidy
1.	Summer Ploughing	Rs. 1000/Ha	18100Ha.	Rs. 181.00 Lakhs	75 per cent	Rs. 135.75 Lakhs

**(vi) Implementation Chart of the Project**

Agricultural Engineering Department will implement the project with 75per cent subsidy cost.

**(vii) Reporting**

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University of evaluation and applied Research and Statistics and by the Government and other Government and Private agencies.

**6.5.10 Popularisation of Agricultural Mechanisation****(i) Abstract****(Nos)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Power Tiller	200	200	200	200	800
2	Rotavator	17	18	17	17	69
3	Cultivator	14	16	15	17	62
4	Disc Plough	8	4	6	6	24
<b>Total</b>		<b>239</b>	<b>238</b>	<b>238</b>	<b>240</b>	<b>955</b>

**(ii) Budget**

**Table 6.95 Budget for Popularisation of Agricultural Mechanization**

**(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Popularisation of Agricultural Mechanisation through Conventional Machinery / Equipment	63.085	63.04	62.95	63.03	252.11

**(iii) Background / Problem Focus**

Tiruvarur District is the tail end district of the Cauvery Delta. Here the farmers have practiced cultivation of paddy – paddy – pulses type of cropping pattern for the past many decades. Few farmers are cultivating Sugarcane, Oil seeds, Millets etc.

At present, farmers are not able to cultivate their entire land holdings due to scarcity of labour especially women agricultural labourers.

#### **(iv) Project Rationale**

Due to non-availability of Farm Labourers, Tiruvarur District Agricultural activity needs heavily to introduce newly developed Agricultural Machineries and farm implements, which are invented by the TNAU and other resources. Traditional method of cultivates requires lot of labourers which costs more than the cost of cultivation using machineries. Cost of cultivation can be minimized by engaging Agricultural Machineries. Then only farmers will get some profit by reducing the cost of cultivation even up to 50 per cent.

#### **(v) Project Strategy**

At this juncture, Agricultural Mechanization is a must for the individual farmers, according to their land holdings size. Farmers are economically weak and they could not be able to buy these Agricultural Machineries & Equipments. Due to the Natural Calamities also, the farmers are affected year by year, and they will not be able to buy the newly developed Agricultural Machineries & Implements.

#### **(vi) Project Goals**

1. To increase the cultivable Agricultural area
2. Agricultural activities can be made fast with the help of the newly developed
3. Modern Agricultural Machineries and Implements.
4. By using these New Machineries & Implements, the mind set and Interest of the Farmers are increased in doing agriculture as an industrial approach.
5. Scarcity of Farm Labourers is overcome.
6. Cost of cultivation is reduced to 50per cent of expenditure due to Agricultural Mechanization

7. Farmers are getting good profit by doing Agriculture through Mechanization.
8. When using the aged nursery plants due to scarcity of women laborers for planting works there will be yield loss. By implementing the Agricultural Mechanization, the Cultivation works should be completed in time and the production loss may be avoided. The production may be raised up to 20 per cent.
9. The harvesting works should be completed in time and the seasonal demands may be avoided and the grain loss may be reduced up to 20per cent.

#### (vii) Project Components

50 per cent Subsidy has to be given to the farmers for the following components of Newly Developed Agricultural Machineries and Implements.

1. Power Tiller.
2. Rotavator.
3. Cultivator
4. Disc Plough.

#### (viii) Project Cost and Financing

(Rupees in Lakhs)

Sl.No	Project component	Unit Cost	Subsidy pattern	Total Nos	Subsidy Amount
1	Power Tiller	1.16	25 per cent	800	232.00
2	Rotavator	0.90	25 per cent	69	15.53
3	Cultivator	0.160	25 per cent	62	2.48
4	Disc Plough	0.470	25 per cent	24	2.10
<b>Total</b>				<b>965</b>	<b>252.11</b>

### Implementation Chart of the Project

Agricultural Engineering Department will implement the project.

#### (ix) Reporting

Reporting will be done by Agricultural Engineering Department and Tamilnadu Agriculture University. Evaluation will be done by Tamilnadu Agriculture University, Department of Applied Research and Statistics and by other Government & Private Agencies.

### 6.5.11 Water Harvesting Structure

#### (i) Abstract

(Nos.)

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Farm Pond -Unlined	500	500	500	500	2000
2	New Village Tanks	17	18	19	19	73
<b>Total</b>		<b>517</b>	<b>518</b>	<b>519</b>	<b>519</b>	<b>2073</b>

#### (ii) Budget

**Table 6.96 Budget details for Water Harvesting Structure**

(Rupees in Lakhs)

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	Farm Pond-Unlined	250.00	250.00	250.00	250.00	1000
2	New Village Tanks	25.50	27.00	28.50	28.50	109.50
<b>Total</b>		<b>275.50</b>	<b>277.0</b>	<b>278.50</b>	<b>278.50</b>	<b>1109.50</b>

#### (iii) Background

Thiruvarur District is situated in the tail end of the cauvery Delta basin affected by drought problem during summer season due to erratic supply of water and drainage problem during rainy season. Hence the economic and social status of the district goes down rapidly. Requirement of water harvesting structure is very much essential to improve the condition of this district.

**(iv) Project Rationale**

- ❖ Main source of Irrigation Cauvery River is in much erratic condition.
- ❖ The available ground water tapped already requires recharging.
- ❖ Cost of water hiring from the bore well owners at acute times are increasing leading to increased cost of cultivation.

The above important farming hurdles can be resolved through water harvesting structures and fish culture encouraged.

**(v) Project Strategy**

Water is national economy presently. By providing water harvesting structure in phased manner to all land holding viz, at least one farm pond for every 5ha of land and creation of new village pond to increase water holding capacity of 10 million litre leads to better water management along with Mettur reservoir.

**(vi) Project Goal**

1. Construction of 1600 Farm ponds
2. Creation of 8 new village ponds.
3. Improving ground water table by 1m at least.
4. Improving water management and encouraging fish culture.

**(vi) Project Components**

1. Formation of Farm ponds for every 5ha of land.
2. Creation of new village ponds.

**(vii) Project Cost and Financing**

	<b>Total</b>	<b>Cost/Unit</b>	<b>Total cost</b>
1. Formation of Farm pond	2000Nos.	Rs.50000/-	1000 lakhs
2. Formation of new village pond	73 Nos.	Rs, 150000/-	109.50 lakhs
		<b>Subsidy</b>	<b>Total Subsidy</b>
		90 per cent	1000 lakhs
		100 per cent	12.00 lakhs

**(viii) Implementation Chart of the Project**

Agricultural Engineering Department will implement the project by adopting the guidelines of the NADP, in four financial years (2008-2012).

**(ix) Reporting**

Reporting will be done by Agricultural Engineering Department; Evaluation will be done by Tamilnadu Agricultural University, Department of evaluation Department of statistics, and Applied research and by other agencies.

**6.5.12 Water Management Works-PVC Pipe Laying****(i) Abstract**

Sl.No.	Project component	2008-09	2009-10	2010-11	2011-12	Total
1.	PVC Pipe Laying	355	360	360	360	1435

**(ii) Budget****Table 6.97 Budget details for Water Management Works****(Rupees in Lakhs)**

Sl.No	Project component	2008-09	2009-10	2010-11	2011-12	Total
1	PVC Pipe Laying	47.925	48.60	48.60	48.60	193.73

**(iii) Background**

Thiruvarur District comes under of Cauvery delta basin having existing earthen channel at every field level, for irrigation purpose. Scientific studies reveal that 20 per cent to 30 per cent of water losses is only through conveyance through earthen channels, and 15 per cent of water loss is through evaporation.

This reveals that somehow the water loss should be rectified for better water management.

**(iv) Project Rationale**

Conveyance loss and evaporation loss steals around 1/3<sup>rd</sup> of the total water, leading to at least 20 per cent reduction in productivity and economy. Normal studies reveal that 30 per cent of farmers are applying for farm loan for cultivation practices. If the water loss is minimized to a certain extent it will fetch more than 20 per cent productivity and increasing socio-economic status of the farmer.

**(v) Project Strategy**

By providing Poly Vinyl Chloride (P.V.C) lining the water loss during conveyance can reduced than open lining methods. The technology of pipe lining does not involve with huge investment and materials.

**(vi) Project Goal**

1. Minimizing water loss
2. Inducing new technology
3. Improving socio-economic status.

**(vii) Project Components**

Laying of P.V.C pipe lining works at major waterless regions.



**(viii) Project Cost and Financing**

	<b>Total</b>	<b>Cost unit</b>	<b>Total cost</b>	<b>Subsidy</b>	<b>Total Subsidy</b>
Laying of P.V.C Lining	1435Nos	15000/-	215.25lakh	90 per cent	193.73ss lakh

**(ix) Implementation Chart of the Project**

Agricultural Engineering Department will implements- the project by adopting the guidelines of the NADP, in four financial years (2008-2012).

**(x) Reporting**

Reporting will be done by Agricultural Engineering Department; Evaluation will be done by Tamilnadu Agricultural University, Department of evaluation Department of statistics, Applied research and by other agencies.

**Table 6.98 Agricultural Engineering – Action plan**

(Rs.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
	<b>STREAM – 1</b>												
<b>I</b>	<b>Introduction of Newly Developed Agricultural Machinery / Implement</b>												
1	Mini Combined Harvester TNAU Model	2.50	50 %	14	15.0	13	16.25	11	13.75	13	16.25	51	61.25
2	Multi Crop Thrasher (High capacity)	2.10	50 %	2	2.1	3	3.15	3	3.15	3	3.15	11	11.55
3	Power Weeder with attachment( all models)	1.00	50 %	4	2.0	7	3.5	7	3.5	4	2.0	22	11.00
4	Power Thrasher	1.00	50 %	45	22.5	42	21.0	44	22.0	46	23.0	177	88.50
5	Paddy Transplanter	1.40	50 %	10	7.0	12	8.4	13	9.1	13	9.1	48	33.60
6	Post Hole digger	0.85	50 %	2	0.85	4	1.71	1	0.425	4	1.71		4.70
7	Shredder( Heavy )	1.00	50 %	-	-	-	-	-	--	--	--	-	-
8	Shredder( Medium )	0.40	50 %	1	0.2	--	--	--	--	--	--	1	0.20
9	Maize Husker Sheller	0.90	50 %	--	--	--	--	--	--	--	--	-	-
10	Coconut De-husker	0.60	50 %	4	1.2	3	0.9	3	0.9	3	0.9	13	3.90
11	Ground nut decordicator	0.35	50 %	--	--	--	--	--	--	--	--	--	--
12	Chisel Plough	0.12	50 %	--	--	--	--	--	--	--	--	--	--
13	Power Weeder- Oleo mac	0.65	50 %	1	0.325	1	0.325	1	0.325	1	0.325	4	1.30
14	Ratoon Manager	1.00	50 %	1	0.5	1	0.5	-	-	1	0.5	3	1.50

Table 6.98 Contd....

(Rs. 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
15	Multi Crop Thrasher (Tractor PTO)	1.25	50 %	6	3.75	6	3.755	5	3.125	5	3.125	22	13.76
16	Knapsac Power operated Hydraulic Sprayer	0.20	50 %	20	2.0	15	1.5	16	1.6	20	2.0	71	7.10
17	Shredder( Tractor PTO Operated )	0.85	50 %	--	--	--	--	--	--	--	--	--	--
18	Power Operated Chaffs Cutter	0.30	50 %	1	0.15	-	-	-	-	-	-	1	0.15
19	Japanese Yanmar 6 - row Transplanter with nursery raising system	7.50	50 %	2	7.5	3	11.25	3	11.25	1	3.75	9	33.75
20	Japanese Yanmar 8 - row Transplanter with nursery raising system	10.50	50 %	1	5.25	1	5.25	-	-	-	--	2	10.50
21	Korean 4 row walk behind Transplanter	2.00	50 %	4	4.0	5	5.0	5	5.0	3	3.0	17	17.00
22	Combined Harvester - Tractor operated	12.00	50 %	3	18.0	3	18.0	2	12.0	3	18.0	11	66.00
23	Combined Harvester - Self propelled	16.00	50 %	2	16.0	5	40.0	4	32.0	2	16.0	13	104.00
24	Mini Combined Harvester with Transplanter attachment (Prime Moover Power tiller)	2.50	75 %	140	262.5		281.25		262.5		281.25		1087.50
25	Maiz combne harvester	16.00	50 %	--	--	--	--	--	--	--	--	--	--
26	Gender friendly equipments	0.08	75 %	900	54.0	950	57.0	950	57.0	900	54.0	3700	222.00

Table 6.98 Contd....

(Rs. 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
<b>II</b>	<b>Innovative Water Harvesting Structures</b>												
1	unlined farm pond with oil engine ,PVC conveyance or mobile sprinkler	1.00	90 %	300	270.00	300	270.00	300	270.00	300	270.00	1200	1080.00
<b>III</b>	<b>Control of sea Water Intrusion</b>												
1	Recharge shafts to prevent sea water intrusion in cosatal areas	0.50	100 %	160	80.00	160	80.00	140	70.00	140	70.00	600	300
<b>IV</b>	<b>Promoting the concept of Mechanised villages</b>												
1	Distribution of crop based pacakage of Agri.Machnery in the adapted vllages	varied	75 %	--	--	--	--	--	--	--	--	0	0.00
	1.Paddy	31.68	75 %	5	118.794	5	118.7925	5	118.7925	5	118.7925	20	475.1715
	2. Groundnut			--	--	--	--	--	--	--	--	0	0.00
	3. Maize			--	--	--	--	--	--	--	--	0	0.00
<b>V</b>	<b>Creation of Water Sources</b>												
	1. Construction of Borewells and Energisation	2.00	90%	200	360.00	200	360.00	200	360.00	200	360.00	800	1440.00
<b>VI</b>	<b>Other Innovative Programe</b>												

Table 6.98 Contd....

(Rs. 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
1	Formation of Farm Roads	3.00/ KM	100%	97	291.00	92	276.00	82	246.00	92	276.00	363	1089
2	Remodeling of Irrigation / Drainage Channels	1.00 / KM	100%	330	330.00	305	305.00	305	305.00	310	310.00	1250	1250.00
3	Drying Yards	2.75	100%	50	137.50	58	159.50	52	143.00	56	154.00	216	594.00
4	Thrashing Floors	1.00	100%	77	77.00	77	77.00	79	79.00	79	79.00	312	312.00
5	Ground Water Recharge Structure cum Fish Pond	1.00	90%	172	172.00	202	202.00	177	177.00	192	192.00	743	743.00
6	Moisture conservation through Summer Ploughing	0.01 / Ha	75%	4500	33.75	4600	34.50	4500	33.75	4500	33.75	18100	135.75
7.	Training to farmers regarding utilization of new developed agri. machineries at TNAU / other training centres	Rs.10 000/b atch	100%	20	2.00	20	2.00	20	2.00	20	2.00	80	8.00
8.	Training to staff regarding utilization and maintenance of new developed agri. machineries at TNAU / other training centres	Rs.10 000/b atch	100%	4	0.40	4	0.40	4	0.40	4	0.40	16	1.60
9.	Water harvesting through failed borewells	Rs.15 000/ borewell	100%	34	5.10	38	5.70	39	5.85	39	5.85	150	22.50
	<b>TOTAL</b>				<b>2302.369</b>		<b>2369.633</b>		<b>2248.418</b>		<b>2309.853</b>		<b>9230.272</b>

Sl. No.	Project Component	Unit Cost Rs. In Lakhs	Subsidy per cent	2008-09		2009-10		2010-11		2011-12		Total	
				Nos.	Cost Rs. In Lakhs	Nos.	Cost Rs. In Lakhs	Nos.	Cost Rs. In Lakhs	Nos.	Cost Rs. In Lakhs	Nos.	Cost Rs. In Lakhs
	<b>STREAM – 2</b>												
<b>1</b>	<b>Popularisation of Agricultural Mechanisation through Conventional Machinery / Equipments</b>												
a	Power Tiller	1.16	25%	200	58.000	200	58.00	200	58.00	200	58.00	800	232.00
b	Rotavator	0.90	25%	17	3.825	18	4.05	17	3.825	17	3.825	69	15.53
c	Cultivator	0.160	25%	14	0.560	16	0.64	15	0.6	17	0.68	62	2.48
d	Off-set Disc Harrow	0.470	25%	-	-	-	-	-	-	-	-	-	-
e	Disc Plough	0.350	25%	8	0.7	4	0.35	6	0.525	6	0.525	24	2.10
<b>2</b>	<b>Water Harvesting Structures</b>												
a	Farm Pond - Unlined	0.50	90%	500	250.000	500	250.00	500	250.00	500	250.00	2000	1000.00
b	Check-Dams - Minor	0.30	100%	-	-	-	-	-	-	-	-	-	-
c	Check-Dams - Medium	0.75	100%	-	-	-	-	-	-	-	-	-	-
d	Check-Dams - Major	1.00	100%	-	-	-	-	-	-	-	-	-	-
e	Percolation Pond	3.25	100%	-	-	-	-	-	-	-	-	-	-
f	Recharge Shaft	0.30	100%	-	-	-	-	-	-	-	-	-	-
g	New Village Tank	1.50	100%	17	25.50	18	27.00	19	28.50	19	28.90	73	109.50
h	Collection Well	0.40	90%	-	-	-	-	-	-	-	-	-	-
<b>3</b>	<b>Soil Conservation Works</b>												
a	Compartmental bunding	0.03	90%	-	-	-	-	-	-	-	-	-	-
b	Land Shapping	0.10	90%	-	-	-	-	-	-	-	-	-	-
c	Terrace Support wall	0.30	90%	-	-	-	-	-	-	-	-	-	-
<b>4</b>	<b>Water Management Works</b>												
a	PVC Pipe Laying	0.15	90%	355	47.925	360	48.60	360	48.60	360	48.60	1435	193.73
b	Ground level Reservoir	0.8	90%	-	-	-	-	-	-	-	-	-	-
c	Fertigation Assembly	0.15	90%	-	-	-	-	-	-	-	-	-	-
<b>STREAM - 2 TOTAL</b>				<b>1111</b>	<b>386.510</b>	<b>1116</b>	<b>388.64</b>	<b>1117</b>	<b>390.05</b>	<b>1119</b>	<b>390.05</b>	<b>4463</b>	<b>1555.25</b>

**Table 6.99 Budget Details for Agricultural Engineering Department****(Rs. in lakhs)**

Sl. No.	Stream	2008-09	2009-10	2010-11	2011-12	Total
1	Stream -1	2302.369	2369.633	2248.418	2309.853	9230.27
2	Stream -2	386.510	388.64	390.05	390.05	1555.25
<b>Total</b>		<b>2688.879</b>	<b>2758.273</b>	<b>2638.468</b>	<b>2699.903</b>	<b>10785.52</b>

## **6.6 Strengthening of Agricultural Marketing and Agribusiness Development in Tamil Nadu through NADP Funding**

### **1. Current Status of Agribusiness**

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

The Government is taking efforts to attain sustainable agricultural development by bringing agriculture as a commercial venture by switching over from the present method of cultivation through adoption of new scientific method of cultivation to increase the productivity to manifold, value addition, processing and utilization of marketing opportunities. To improve the marketing opportunities for agricultural produce, the Uzhavar Santhai, post harvest management, cold storage facilities for

perishables, food processing, establishment of export zones, terminal markets have been taken up. To reduce the loss of the food products which are upto 30 per cent necessary provisions are made in the Agricultural Industrial Policy to ensure remunerative price to the produce, encourage food processing sector and export to earn foreign exchange by increasing the food processing from the present level of 1 per cent to 10 per cent, out of the total production, 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.

## **2. Agribusiness and the National Development Goals**

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

For the agriculture sector, the eleventh Plan projected an annual growth rate of 4 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 eventuated 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.

### **3. Major Constraints and Challenges in Agricultural Marketing and Agribusiness Development in the State**

Current agricultural marketing and agribusiness system in the state is the outcome of several years of Government intervention. The system has undergone several changes during the last 50 years owing to the increased marketed surplus; increase in urbanization and income levels and consequent changes in the pattern of demand for marketing services; increase in linkages with distant and overseas markets; and changes in the form and degree of government intervention. An important characteristic of agricultural produce markets in Tamil Nadu has been that private trade has continued to dominate the

market. With the large quantities required to be handled by the private trade, the size and structure of markets over time have considerably expanded. There are a large number of wholesalers and retailers handle the trade in food grains. Apart from traders, processors also play an important role as they also enter in the market as bulk buyers and sellers.

Agricultural development continues to remain the most important objective of State planning and policy. The experience of agricultural development in the state has shown that the existing systems of delivery of agricultural inputs and marketing of agricultural output have not been efficient in reaching the benefits of technology to all the sections of farmers. The timely, quality and cost effective delivery of adequate inputs still remains a dream despite the marketing attempts of the corporate sector and the developmental programmes of the state. Also, the farmers are not able to sell their surplus produce remuneratively. There are plenty of distress sales among farmers both in agriculturally developed as well as backward regions in the State. There are temporal and spatial variations in the markets and the producers' share in consumers' rupee has not been satisfactory, except for a few commodities. In fact, in some commodities like tomato in some regions in State, producers end up making net losses at the same time when traders make substantial profits from the same crop. However, it needs to be recognized that producers' relative share in the final price of a product certainly goes down with the increase in the number of value-adding stages, and therefore, cannot be used as an indicator of a market's efficiency or inefficiency. Nevertheless, the other aspects of the market performance like absolute share of the producer in terms of remunerability, fluctuations in prices across seasons, large spatial price differences and lack of proper market outlets itself, are the issues which have become increasingly crucial in the present context. There are structural weaknesses of agricultural markets like unorganized suppliers as against organized buyers, weak holding capacity of the producers and the perishable nature of the produce in the absence of any storage infrastructure. In the presence of these characteristics of the market, the rural producers cannot simply be left to fend for themselves so far as marketing of their produce is concerned. And if the marketing system does not assure good returns to producers, not

much can be achieved in the field of product quality and delivery which are critical for processing and manufacturing sectors. In the environment of liberalization and globalization, the role of the state in agricultural marketing and input supply is being reduced, and an increasing space is being provided to the private sector to bring about better marketing efficiency in input and output markets. On the other hand, processors and/or marketers face problems in obtaining timely, cost effective, and adequate supply of quality raw materials.

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

#### **4. Sector Problem Analysis**

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

Farmers fail to link among themselves through effective producer organizations 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 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.

## **5. Project Rationale**

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

1. The rate of agricultural growth over the past decade has been declining in Tamil Nadu. Agribusiness through its linkages to production, industry and services has the potential to transform the agricultural system into a more dynamic sector.
2. As urbanization and incomes grow, there is a growing demand for a wider range of agrifood products, of higher quality and greater convenience, to use in Tamil Nadu. Meeting this demand requires organized retailing and effective agribusiness supply chains.
3. Agribusiness contributes to the production of higher value products and diversification away from staple foods. Through this diversification and the development of the value chain between producers and consumers, the rural economy benefits from innovation and the creation of non-farm employment.
4. Tamil Nadu has a comparative advantage in a number of agricultural commodities. Increasing integration with global markets and the potential to become a stronger player in agricultural trade requires quality assurance and competitive advantage.
5. The State Government has identified agribusiness development as a strategic priority. In Tamil Nadu, agribusiness has a significant role to play in rural and

economic development, and agro-enterprises could be a major source of rural non-farm employment and income.

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

## **6. Project Strategy**

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

## **7. Project Approach**

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

## **8. 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.

## **9. Project Components**

1. Establishment/ organization of commodity groups for marketing in the state with financial assistance from NADP
2. Facilitation of Contract Farming between farmers and bulk buyers in the state with financial assistance from NADP

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

### **Project Components Description**

#### **6.6.1 Establishment/ Organization of Commodity Groups for Marketing in the State with Financial Assistance from NADP**

##### **(i) Project Rationale**

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

Based on the international experience, in view of expanding retail trade, organizing the farmers and equipping the commodity groups can facilitate the aggregation of produce and also enhance the bargaining power of the farmers. The experience in Malaysia, Thailand and Philippines indicated that the retail chains will depend on some intermediary agency for sourcing the produce. If this role can be taken



by the farmers' commodity groups, the commodities can move directly to the market without any intermediary. Further, adoption of technology both in production and post-harvest management which is expected to flow from the organized retailers and other research institutions can be efficient through the farmers' commodity groups. There is no single model for organizing the farmers for the whole country. Depending on the strength of the existing farmers' institutions, various models could be adopted. The model of farmers' marketing commodity groups cannot be the same throughout the country. It can be cooperatives, SHGs or any other form. Therefore it is proposed to organize the commodity groups for marketing of agricultural commodities in Tamil Nadu over the period of four years.

**(ii) Project Strategy**

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

**(iii) Project Goals**

Organizing Group Marketing of major agricultural commodities for realizing higher prices through establishing commodity groups.

**(iv) Project Components**

1. Organising meetings with large number of farmers
2. Identification of willing / co operating Farmers
3. Organising the willing farmers in to groups
4. Periodical meeting with groups and coordinating the activities

**(v) Project Cost and Financing**

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

In this project it is proposed to organize 280 commodity groups in 5 commodities for marketing of agricultural commodities in Thiruvarur district over the period of four years. This will require resources of 64.40 Lakhs for the period of four years. The details are given in Table 100 A.

**(vi) Reporting**

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

**6.6.2 Facilitation of Contract Farming between Farmers and Bulk Buyers in the State with Financial Assistance from NADP**

**(i) Project Rationale**

Apart from linking the farmer to consumer through farmers' organizations, another initiative for reducing transaction cost is establishment of direct channel between farmer-processor/bulk consumers, through contract farming (CF). For different reasons, both farmers and farm product processors/distributors may prefer contracts to complete vertical integration. A farmer may prefer a contract which gives access to additional sources of capital, and a more certain price by shifting part of the risk of adverse price movement to the buyer. Farmers also get an access to new technology and inputs, including credit, through contracts which otherwise may be beyond their reach. For a processor or distributor, contracts are more flexible in the face of market uncertainty, make smaller demands on scarce capital resources, and impose less of an additional burden of labour relations, ownership of land, and production activities, on management.

At more macro economic level, contracting can help to remove market imperfections in produce, capital (credit), land, labour, information and insurance markets; facilitate better coordination of local production activities which often involve initial investment in processing, extension etc.; and can help in reducing transaction costs. It has also been used in many situations as a policy step by the state to bring about

crop diversification for improving farm incomes and employment. CF is also seen as a way to reduce costs of cultivation as it can provide access to better inputs and more efficient production methods. The increasing cost of cultivation was the reason for the emergence of CF in Japan and Spain in the 1950s and in the Indian Punjab in the early 1990s. Though there are concerns about the ability of the small farms and firms to survive in the changing environment of agribusiness, still there are opportunities for them to exploit like in product differentiation with origin of product or organic products and other niche markets. But, the major route has to be through exploitation of other factors like external economies of scale through networking or clustering and such other alliances like CF.

Marketing tie-ups between farmers and processors or bulk purchasers have special significance for small farmers, who have small marketed surplus and do 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 in large scale in Tamil Nadu. The lessons taught in case of sugarcane, cotton and other commodities have to be taken into account during formulation of the project. For this in this NADP programme facilitation contract farming between the traders and producer is proposed.

### **(ii) Project Strategy**

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

### **(iii) Project Components**

Organising meeting with farmers, large scale buying firms, crop insurance companies and banks.

1. Identification of willing / co operating Farmers/ commodity clusters
2. Organising the willing farmers in to groups

3. Arranging the Groups to have contract/agreement with select large scale buyers, banks and crop insurance firms.
4. Periodical watching of contracts and conflict management.

#### **(iv) Project Cost and Financing**

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

In this project it is proposed to organize the meeting on various crops regarding contract farming between farmers and bulk buyers in Thiruvarur district for marketing of agricultural commodities in Tamil Nadu over the period of four years. This will require resources of 31.125 lakhs for the period of four years. The Details are presented in Table 100 A.

#### **(v) Implementation Chart of the Project**

Implementation chart of the project is given in Annexure 1.

#### **(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).

### **6.6.3 Dissemination of Market Intelligence**

#### **(i) Project Rationale**

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

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

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

### **(ii) Project Strategy**

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

**(iii) Project Components**

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

**(iv) Project Cost and Financing**

In this project it is proposed to disseminate Market intelligence of agricultural commodities to all the Stake holders through different mass media in Thiruvarur district over the period of four years. This will require resources of 15.810 Lakhs for the period of four years. The Details are presented in Table 100 A.

**(v) Implementation Chart of the Project**

Implementation chart of the project is given in Annexure I.

**(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)

**6.6.4. Arrangement of Buyers - Sellers Meet****(i) Project Rationale**

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

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

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

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

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

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

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

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

## **(ii) Project Cost and Financing**

In this project it is proposed to arrange for **58** buyers sellers meet in Thiruvarur district over the period of four years. This will require resources of 13.840 Lakhs for the period of four years. The Details are presented in Table 100 A.

### **6.6.5 Organizing the Exposure Visits to important Markets with in the State and out side the State by Commodity Groups / Farmers and Extension Functionaries**

#### **(i) Project Rationale**

The goal of four per cent growth in agriculture can only be achieved by increasing productivity per unit of land. Considering the costs and constraints of resources such as water, nutrients and energy, the genetic enhancement of productivity should be coupled with input use efficiency. This can be made possible only by creation and utilization of new and improved technology. Since new technology creation and development is a slow process, for attaining the desired 4per cent growth during the XIth Plan period, we will have to rely more on known and proven technology. Agriculture research system claims to have a large number of promising technologies to achieve high growth and promote farming systems that improve natural resource base. However, these are not seen at farmers' fields at large. Visit of other areas, where new technologies are implementing successfully i.e., exposure visits is an important thing to enlighten the farmers for implementing those technologies in their areas also. It is easy to know the new technology through demonstration. Farmers will be selected to visit different places within the State where the technologies are well adopted. Therefore it is proposed to organize the exposure visit to important markets with in the state and out side the state by commodity groups / farmers and extension functionaries in the state for marketing of agricultural commodities in Tamil Nadu over the period of four years.

#### **(ii) Project Strategy**

Organizing the exposure visits to important markets with in the state and out side the state by commodity groups / farmers and extension functionaries.

#### **(iii) Project Goals**

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



**(iv) Project Components**

1. Organizing the exposure visit to important markets with in the state by commodity groups / farmers
2. Organizing the exposure visit to important markets out side the state by commodity groups / farmers
3. Organizing the exposure visit to important markets with in the state and out side the state by extension functionaries

**(v) Project Cost and Financing**

Visit of important markets, where new opportunity for marketing of the commodity and consumer preference i.e., exposure visits SAFAL market Bangalore is an important thing to enlighten the farmers for marketing their produce as well as consumer preference. It is easy to know the marketing of the commodity through observation and participation in the well developed markets. Farmers will be selected to visit different market places within the State where the new opportunities for marketing of commodities exist. This will require resources of 56.031 Lakhs for the period of four years. The Details are presented in Table 100 A.

**(vi) Reporting**

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

**6.6.6. 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 to strengthening of market extension centre at each district/ block level with LCD projectors and lap top computer including internet facilities.

**(ii) Project Strategy**

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

**(iii) Project Goals**

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

**(iv) Project Components**

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

**(v) Project cost and Financing**

Over the last few years mass media has seen a phenomenal growth in the country both in terms of reach and advance in technology. This medium has not been exploited to

its full potential for the purpose of agricultural extension specifically market led extension. A concerted and well-coordinated effort now needs to be made to use the electronic media in the Extension strategy by strengthening infrastructure facility. In this project it is proposed to strengthening market extension centre in Thiruvarur district over the period of four years. This will require resources of 50.00 Lakhs for the period of four years. The Details are presented in Table 100 A.

### **Implementation Chart of the Project**

#### **(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 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) Project Cost and Financing**

In this project it is proposed to strengthen Village Shandies in Thiruvarur district over the period of four years. This will require resources of 25.00 Lakhs for the period of four years. The Details are presented in Table 100 A.

**(v) Reporting**

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

**6.6.8. 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 95.60 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 **210** trainings under Capacity Building of Farmers Skill titles for marketing of agricultural commodities in Thiruvarur district over the period of four years. This will require resources of 95.60 Lakhs for the period of four years. The Details are presented in Table 100 A.

**(v) Reporting**

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

**6.6.9. 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. The estimated marketed surpluses of various commodities are given in the Table 1 reflected the need for improvement in the market infrastructure in coming years.

#### **Estimates of Marketed Surpluses of Various Commodities**

<b>Commodity</b>	<b>Marketed Surplus Ratio (per cent)</b>
Rice	51.9
Wheat	53.8
Jowar	39.7
Bajra	45.4
Maize	46.2
Other Coarse Cereals	57.1
Pulses	53.9
Food grains	
Oilseeds	79.6
Sugarcane	92.9
Fruits and Vegetables**	88.2
Cotton	100.0
Fish	100.0
Milk	60.0
Mutton and Goat Meat	100.0
Beef and Buffalo Meat	100.0
Meat(Total)	100.0
Eggs	88.2

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

#### **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

### **Project Cost and Financing**

In this project it is proposed to strengthen market infrastructure in Thiruvarur district over the period of four years. This will require resources of 11.50 Lakhs for the period of four years. The Details are presented in Table 100 A.

### **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)

## **6.10. 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 Thiruvarur district over the period of four years. This will require resources of 46.00 Lakhs for the period of four years. The Details are presented in Table 100 A.

### **(iv) Reporting**

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

## **6.11. 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 25.00 Lakhs over the period of four years. The Details are presented in Table 100 A.

**(iv) Reporting**

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

**11. Project Cost**

The total cost for development of agricultural marketing so as to increase the profitability of farmers would be 998.10 Lakhs for this district for the eleventh plan period.

**12. 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.

**13. 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.

#### **14. 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 6.100 A. Original Project Proposals for Agricultural Marketing and Agri-Business**  
(Rs. in lakhs)

S. No	Components	2009			2010			2011			2012			Total
		Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	Unit cost	Physical	Financial	
<b>1</b>	<b>Commodity Group Formation</b>													
	Pulses	20000	20	400000	22000	20	440000	24000	20	480000	26000	20	520000	<b>1840000</b>
	Vegetables	20000	10	200000	22000	10	220000	24000	10	240000	26000	10	260000	<b>920000</b>
	Cotton	20000	10	200000	22000	10	220000	24000	10	240000	26000	10	260000	<b>920000</b>
	Oilseeds	20000	10	200000	22000	10	220000	24000	10	240000	26000	10	260000	<b>920000</b>
	Paddy	20000	20	400000	22000	20	440000	24000	20	480000	26000	20	520000	<b>1840000</b>
<b>2</b>	<b>Market Intelligence Dissemination</b>													
	Village meeting	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	<b>460000</b>
	Group meeting	10000	10	100000	11000	20	220000	12000	20	240000	13000	25	325000	<b>885000</b>
	Printing Leaflets	2	10000	20000	3	10000	30000	4	10000	40000	5	10000	50000	<b>140000</b>
	Computer	10000	5	50000	0	0	0	0	0	0	1	0	0	<b>50000</b>
	Purchase of marketing materials	10000	1	10000	11000	1	11000	12000	1	12000	13000	1	13000	<b>46000</b>
<b>3</b>	<b>Facilitation of Contract Farming</b>													
	Pulses	15000	20	300000	16500	30	495000	18000	25	450000	19500	25	487500	<b>1732500</b>
	Cotton	15000	20	300000	16500	20	330000	18000	20	360000	19500	20	390000	<b>1380000</b>
<b>4</b>	<b>Exposure Visit to Markets</b>													
	Within State	20000	1	20000	22000	1	22000	24000	1	24000	26000	1	26000	<b>92000</b>
	Outside state	75000	3	225000	82500	1	82500	90000	1	90000	97500	1	97500	<b>495000</b>
	Visit to national market	150000	0	0	165000	0	0	181500	0	0	199650	0	0	<b>0</b>
<b>5</b>	<b>Arrangement of buyer seller meetings</b>													
	Arrangement of buyer seller meetings	20000	6	120000	22000	12	264000	24000	20	480000	26000	20	520000	<b>1384000</b>

**Table 6.100 A. Contd....`**

S. No	Components	2009			2010			2011			2012			Total
		Unit cost	Physi cal	Finan cial	Unit cost	Physi cal	Finan cial	Unit cost	Physi cal	Finan cial	Unit cost	Physi cal	Finan cial	
6	Streng. Of market extension centre	250000	2	500000	275000	0	0	300000	0	0	325000		0	<b>500000</b>
7	Streng. Of village shandies	50000	5	250000	0	0	0	0	0	0	0	0	0	<b>250000</b>
8	Market price surveillance	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	<b>460000</b>
9	Publicity - regulated market	500000	1	500000	550000	1	550000	600000	1	600000	650000	1	650000	<b>2300000</b>
10	Trainings on													
	Warehousing and Storage	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	<b>460000</b>
	Grading	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	<b>460000</b>
	Market Intelligence	10000	10	100000	11000	10	110000	12000	10	120000	13000	10	130000	<b>460000</b>
	Post Harvest	10000	20	200000	11000	20	220000	12000	20	240000	13000	20	260000	<b>920000</b>
	Commodity Markets		10	0	11000	10	110000	12000	10	120000	13000	10	130000	<b>360000</b>
	Export promotion	10000	0	0	11000	0	0	12000	0	0	13000	0	0	<b>0</b>
	Minimizing PH losses	10000	100	1000000	11000	100	1100000	12000	100	1200000	13000	100	1300000	<b>4600000</b>
	Value addition	10000	50	500000	11000	50	550000	12000	50	600000	13000	50	650000	<b>2300000</b>
11	Market infrastructure activities	500000	1	500000	550000		0	600000		0	650000	1	650000	<b>1150000</b>
	<b>Total</b>			<b>6495000</b>	<b>1941503</b>		<b>6074500</b>	<b>2119504</b>		<b>6736000</b>	<b>2299156</b>		<b>8019000</b>	<b>27324500</b>

**Table 6.100 B. Additional Project Proposals for Agricultural Marketing and Agri-Business DDA(AB)****Rs.in lakhs**

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
<b>I.</b>	<b>Infrastructure</b>								
1	Construction of rural godowns in the premises of the regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
2	Storage godowns for storing produce under lock and key for few days	0	0.00	0	0.00	0	0.00	0	0.00
3	Construction of new drying yards/renovation of dilapidated ones	0	0.00	0	0.00	0	0.00	0	0.00
4	Construction of new auction halls/modernizing the existing ones	0	0.00	0	0.00	0	0.00	0	0.00
5	Construction of money disbursement halls/counters	0	0.00	0	0.00	0	0.00	0	0.00
6	Construction of office buildings and staff quarters								
	i) Construction of Office buildings to Deputy Director of Agriculture	1	20.00	0	0.00	0	0.00	1	20.00
	ii) Construction of Staff Quarters Agriculture Officer (AB) & Uzhavar Shandhai @ Rs.5.00 lakhs/unit	5	25.00	0	0.00	0	0.00	5	25.00
	iii) Construction of Staff Quarters AAO(AB) & Uzhavar Shandhai @ Rs.4.00 lakhs/unit	17	68.00	0	0.00	0	0.00	17	68.00
7	Installation of processing units/purchase of new instruments in the premises of the regulated markets							0	0.00
	(i) Mechanical drier	0	0.00	0	0.00	0	0.00	0	0.00
	(ii) Mechanical winnower	0	0.00	0	0.00	0	0.00	0	0.00
	(iii) Groundnut decorticator	0	0.00	0	0.00	0	0.00	0	0.00

Table 6.100 B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
	(iv) Sieving machine	0	0.00	0	0.00	0	0.00	0	0.00
	(v) Cotton Ginning Unit / Pressing Unit	0	0.00	0	0.00	0	0.00	0	0.00
	(vi) Coconut Kernel drying and oil processing units	0	0.00	0	0.00	0	0.00	0	0.00
	(vii) Packaging Units	0	0.00	0	0.00	0	0.00	0	0.00
8	Strengthening the State Ghee and Oil Grading Laboratories	0	0.00	0	0.00	0	0.00	0	0.00
9	Strengthening the Commercial Grading Centres with Laboratory facilities (more numbers can also be included)	0	0.00	0	0.00	0	0.00	0	0.00
10	Strengthening the infrastructure facilities in the Uzhavar Shandies								
	i) Gravel Filling and Flooring of Uzhavar Shandhai, Mannargudi	0	0.00	1	10.00	0	0.00	1	10.00
	ii) Gravel Filling and Flooring of Uzhavar Shandhai, Thiruthuraipoondi	0	0.00	1	10.00	0	0.00	1	10.00
	iii) Fencing and Compound Wall construction for Uzhavar Shandhai, Thiruthuraipoondi	1	10.00	0	0.00	0	0.00	1	10.00
	iv) Construction of Office Building at Uzhavar Shandhai, Mannargudi	1	5.00	0	0.00	0	0.00	1	5.00
	v) Construction of Office Building at Uzhavar Shandhai, Thiruthuraipoondi	1	5.00	0	0.00	0	0.00	1	5.00

Table 6.100 B. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
	vi) Sinking of deep bore well and Electrification of Uzhavar Shandhai, Mannargudi	1	2.00	0	0.00	0	0.00	1	2.00
	vii) Computer and Internet connection @ Rs.40000/-unit	5	20.00	0	0.00	0	0.00	5	20.00
	viii) Provision of Electronic Weighing Machine @ Rs.4000/-unit	150	6.00	0	0.00	0	0.00	150	6.00
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	0	0.00	0	0.00	0	0.00	0	0.00
13	Lawying and relawying of village link roads	0	0.00	0	0.00	0	0.00	0	0.00
14	Provision of Oil moisture meters	0	0.00	0	0.00	0	0.00	0	0.00
15	Provision of Oil testing machines	0	0.00	0	0.00	0	0.00	0	0.00
16	Provision of Electronic weighing machines	0	0.00	0	0.00	0	0.00	0	0.00
17	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
<b>II.</b>	<b>Publicity and Propaganda</b>								
1	Market committee-wise strengthening of the Publicity and Propaganda units	0	0.00	0	0.00	0	0.00	0	0.00
2	Market committee-wise purchase of extension education aids	0	0.00	0	0.00	0	0.00	0	0.00



Table 6.100 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 @ Rs.10000/-unit	20	2.00	20	2.00	20	2.00	60	6.00
5	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
<b>III.</b>	<b>Public relations</b>								
1	Construction of bus-stop shed un front of the regulated markets and in selected villages	0	0.00	0	0.00	0	0.00	0	0.00
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	0	0.00	0	0.00	0	0.00
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 @ 50 Nos./Block	0	0.00	500	7.50	500	7.50	1000	15.00
6	Installation of electric light facilities including solar lights in the community threshing floors	0	0.00	0	0.00	0	0.00	0	0.00
7	Construction of over head tanks, laying of street pipelines and provision of public drinking water taps in a village or two wherein the market arrivals are more	0	0.00	0	0.00	0	0.00	0	0.00
8	Provision of Education loan to the children of a few regular customers	0	0.00	0	0.00	0	0.00	0	0.00

Table 6.100 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	0.00	0	0.00	0	0.00	0	0.00
10	Others if any (Specify)	0	0.00	0	0.00	0	0.00	0	0.00
<b>IV.</b>	<b>Facilities to farmers / Stakeholders</b>								
1	Construction of rest/stay rooms for farmers I regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
2	Construction/modernization of the common toiletry facilities in the regulated markets	0	0.00	0	0.00	0	0.00	0	0.00
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
<b>V.</b>	<b>Any other innovative interventions (specify)</b>								
	i) Provision of one web-cam for documentation @ Rs.50000/-unit	1	0.50	0	0.00	0	0.00	1	0.50
	ii) Xerox machine for office of Deputy Director	1	1.50	0	0.00	0	0.00	1	1.50
	<b>Grand Total</b>	<b>204</b>	<b>165.00</b>	<b>522</b>	<b>29.50</b>	<b>520</b>	<b>9.50</b>	<b>1246</b>	<b>204.00</b>

**Table 6.100 C. Additional Project Proposals for Agricultural Marketing and Agri-Business 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.
<b>I.</b>	<b>Infrastructure</b>								
1	Construction of rural godowns in the premises of the regulated markets	1	30.00	2	60.00	1	30.00	4	120.00
2	Storage godowns for storing produce under lock and key for few days (30X11mtrs)	1	28.00	1	28.00	1	28.00	3	84.00
3	Construction of new drying yards/renovation of dilapidated ones (20X20mtrs)	1	3.00	1	3.00	1	3.00	3	9.00
4	Construction of new auction halls/modernizing the existing ones (open) (30X11mtrs)	1	20.00	2	40.00	1	20.00	4	80.00
5	Construction of money disbursement halls/counters	0	0.00	1	3.00	1	3.00	2	6.00
6	Construction of office buildings and staff quarters	0	0.00	0	0.00	0	0.00	0	0.00
7	Installation of processing units/purchase of new instruments in the premises of the regulated markets							0	0.00
	(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
	(vii) Packaging Units	0	0.00	0	0.00	0	0.00	0	0.00
8	Strengthening the State Ghee and Oil Grading Laboratories	0	0.00	0	0.00	0	0.00	0	0.00

Table 6.100 C. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
9	Strengthening the Commercial Grading Centres with Laboratory facilities (more numbers can also be included)	0	0.00	1	25.00	0	0.00	1	25.00
10	Strengthening the infrastructure facilities in the Uzhavar Shandies (Building new shops)	0	0.00	25	5.00	0	0.00	25	5.00
11	Construction of cold storage facilities in Uzhavar Shandies and in rural godowns	0	0.00	1	7.00	0	0.00	1	7.00
12	Office automation with computer facility for billing etc. in regulated markets	1	1.00	2	2.00	3	3.00	6	6.00
13	Lawying and relawying of village link roads	0	0.00	0	0.00	0	0.00	0	0.00
14	Provision of Oil moisture meters	0	0.00	0	0.00	0	0.00	0	0.00
15	Provision of Oil testing machines	0	0.00	0	0.00	0	0.00	0	0.00
16	Provision of Electronic weighing machines (Uzhavar shandies)	50	4.00	50	4.00	50	4.00	150	12.00
17	Others if any (Specify)							0	0.00
<b>II.</b>	<b>Publicity and Propaganda</b>							0	0.00
1	Market committee-wise strengthening of the Publicity and Propaganda units	0	5.00	0	5.00	0	5.00	0	15.00
2	Market committee-wise purchase of extension education aids	0	0.00	2	2.00	2	2.00	4	4.00
3	Strengthening the regional Publicity and Propaganda wings of the Marketing Board and establishing more regional units	0	0.00	0	0.00	0	0.00	0	0.00
4	Pre-harvest campaigns on large scale	20	2.00	25	2.50	30	3.00	75	7.50

Table 6.100 C. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
5	Others if any (Specify) (price display board)	0	0.00	2	0.60	2	0.60	4	1.20
<b>III.</b>	<b>Public relations</b>							0	0.00
1	Construction of bus-stop shed un front of the regulated markets and in selected villages	2	1.00	1	0.50	2	1.00	5	2.50
2	Taking up public relations activities in the villages	0	0.00	1	0.15	0	0.00	1	0.15
3	Construction of common village threshing floors	0	0.00	10	30.00	10	30.00	20	60.00
4	Construction of village common discussion (Chavadi) hall							0	0.00
5	Distribution of tarpaulins to small and marginal farmers	100	5.00	150	7.50	200	10.00	450	22.50
6	Installation of electric light facilities including solar lights in the community threshing floors	0	0.00	0	0.00	0	0.00	0	0.00
7	Construction of over head tanks, laying of street pipelines and provision of public drinking water taps in a village or two wherein the market arrivals are more	0	0.00	0	0.00	0	0.00	0	0.00
8	Provision of Education loan to the children of a few regular customers	5	0.50	5	0.50	5	0.50	15	1.50
9	Celebrating the regulated market fortnight in each district (just like co-operative weeks/fortnight)	0	3.00	0	4.00	1	5.00	1	12.00
10	Others if any (Specify) Poly pallet (Tonnage)	500	7.50	500	7.50	500	7.50	1500	22.50
<b>IV.</b>	<b>Facilities to farmers / Stakeholders</b>							0	0.00
1	Construction of rest/stay rooms for farmers I regulated markets (17.65 x 7.5 mtrs)	0	0.00	1	15.00	0	0.00	1	15.00

Table 6.100 C. Contd.,

Sl. No.	Possible Development Interventions	2009-10		2010-2011		2011-2012		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
2	Construction/modernization of the common toiletry facilities in the regulated markets	1	1.00	1	1.00	1	1.00	3	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
<b>V.</b>	<b>Any other innovative interventions (specify)</b>	0	0.00	0	0.00	0	0.00	0	0.00
	<b>Grand Total</b>	<b>683</b>	<b>111.00</b>	<b>784</b>	<b>253.25</b>	<b>811</b>	<b>156.60</b>	<b>2278</b>	<b>520.85</b>

## Budget Abstract

(Rs.in lakhs)

Sl.No.	Particulars	2008-09	2009-10	2010-11	2011-12	Total
A.	Original Project	64.95	60.75	67.36	80.19	273.25
B.	Additional Project DDA(AB) and Market Committee	-	165.00	29.50	9.50	204.00
C.	Additional Project Market Committee	-	111.00	253.25	156.60	520.85
	<b>Grand Total</b>	<b>64.95</b>	<b>336.75</b>	<b>350.11</b>	<b>246.29</b>	<b>998.10</b>

## **Proceedings of NADP Proposal Presentation Meeting conducted on 12.5.08**

The meeting was conducted under the chairmanship of the District Collector. The officials from the Department of Agriculture, Horticulture, Agrl.Engineering, Seed Certification, Agrl. Marketing, District Rural Development Agency, Fisheries, Animal Husbandry and Health have participated in the meeting.

The Agricultural Department & sister departments have submitted their proposals for four years under NADP Scheme. The progressive farmers from all the 10 Blocks viz., Thiruvarur, Thiruthuraiipoondi, Muthupettai, Mannargudi, Kottur, Nannilam, Needamangalam, Kudavasal, Koradachery and Valangaiman have shared their views during the forum.

A Power Point Presentation was made by Tmt. Sasikala, Asst. Professor, Department of Agricultural Extension and Rural Sociology, TNAU enlightening the various activities are to be undertaken in Thiruvarur District through Agriculture and its sister departments under NADP scheme.

After a brief discussion on the proposal, the District Collector suggested that after having a brief discussion at block headquarters about the proposal simultaneously on 16.6.08, the consolidated report should be submitted.

The meeting concluded with the vote of thanks by the district Joint Director of Agriculture.

**NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME  
MEETING ON 12.05.08**



**The District Collector M. Chandrasekaran briefs about NADP**



**TNAU Scientist Presents the District Action Plan in the Collector Meeting**





**TNAU Scientist Presents the District Action Plan in the Collector Meeting**



**S.K. Muhammed Ali, JDA Clarifies the Queries Raised by the Collector**



**Queries Clarified by the Official of the Department of Horticulture**



**Presentation by Official of Department of Agricultural Engineering**



**Queries Clarified by the Official of Agricultural Marketing**



**The District Collector and the Panchayat Union Presidents Attending the Meeting**

# திருவாரூர் மாவட்டத்தில் நடப்பாண்டில் வேளாண் வளர்ச்சித் திட்டம் தொடக்கம்

திருவாரூர், மே 13—

திருவாரூர் மாவட்டத்தில் நடப்பாண்டு முதல் தேசிய வேளாண் வளர்ச்சி திட்டம் செயல்படுத்தப்பட உள்ளது என்று கலெக்டர் சந்திரசேகரன் தெரிவித்தார்.

திருவாரூர் கலெக்டர் அலுவலகத்தில் தேசிய வேளாண்வளர்ச்சித் திட்ட கலந்தாய்வு கூட்டம் நடந்தது. இதில் பங்கேற்ற பிறகு கலெக்டர் சந்திரசேகரன் நிருபர்களிடம் கூறியதாவது:

கடந்த 1991ம் ஆண்டு முதல் நாட்டில் பொருளாதாரம் வளர்ச்சி அடைய நடவடிக்கைகள் மேற்கொள்ளப்பட்டு வருகின்றன. இதனடிப்படையில் ஐந்தாண்டு திட்டங்கள் இயற்றப்பட்டு செயல்படுத்தப்பட்டு வருகிறது. நம் நாட்டின் பொருளாதார வளர்ச்சியில் வேளாண்மை முக்கிய பங்கு வகிக்கிறது. கடந்த 9 மற்றும் 10ம் ஐந்தாண்டு திட்டத்தில் 4 சதவளர்ச்சியை இலக்காக வைத்து செயல்பட்டாலும் அதனை எட்ட முடியவில்லை. எனவே 11ம் ஐந்தாண்டு திட்டத்தில் 4 சதவளர்ச்சியை பெற நடப்பாண்டு முதல் திருவாரூர் மாவட்டத்தில் தேசிய வேளாண் வளர்ச்சித் திட்டம் செயல்படுத்தப்பட உள்ளது. வேளாண்மை மற்றும்

## கலெக்டர் சந்திரசேகரன் தகவல்

அத்தொழிலைச் சார்ந்த பிற துறைகளில் அரசு முதலீட்டை அதிகரிப்பது, விவசாயிகளின் தேவையை பொறுத்து மாவட்ட செயல் திட்டம் தயாரித்து செயல்படுத்துவது, விவசாயிகளுக்கு அதிக வருமானம் கிடைக்கக்கூடிய தொழில் நுட்பங்களை கடைபிடிக்கச் செய்வது, மகசூல் இடைவெளியை நிரப்புவதற்கு தேவையான அதிநவீன தொழில் நுட்பங்களை கடைபிடிக்கச் செய்வது, ஒருங்கிணைந்த முறையில் முயற்சிகள் மேற்கொண்டு உற்பத்தி மற்றும் உற்பத்தி திறனை அதிகரிக்கச் செய்வது போன்றவை தேசிய வேளாண் வளர்ச்சி திட்டத்தின் முக்கிய நோக்கங்களாகும்.

இத்திட்டத்தில் உணவு உற்பத்தியை பெருக்கும் முறையில் வளர்ச்சி திட்டங்கள் செயல்படுத்தப்பட உள்ளது. வேளாண்மையை இயந்திரமயமாக்கல், மண் வளத்தை பாதுகாத்தல், அரசு விகைப்பண்ணைகளை பராமரித்தல், ஒருங்கிணைந்த பயறு பாதுகாப்புத் திட்டம், வேளாண்மை தகவல் மையம் ஆரம்பித்தல், வேளாண் விந்

பனை உள் கட்டமைப்பு அமைத்தல், தண்ணீர் பர்சனத்தை அதிகரித்தல், கால்நடை மற்றும் மீன் வளர்ப்பை அதிகரித்தல், விவசாயிகளை கல்விச் சுற்றுலா அழைத்துச் செல்லல், இயற்கை மற்றும் உயிர் உரங்கள் வழங்குதல் போன்றவற்றில் அதிக முக்கியத்துவம் செயல்படுத்தப்பட உள்ளது. நடப்பாண்டில் திருவாரூர் மாவட்டத்தில் துல்லிய பண்ணையம் அமைத்தல், தானியங்கி வானிலை மையம், வேளாண் தகவல் மற்றும் நடமாடும் மண்பரிசோதனை மையம் அமைத்தல் ஆகிய மூன்று இனங்களில் இத்திட்டம் செயல்படுத்தப்பட உள்ளது.

இதன்படி திருவாரூர் மாவட்டத்தில் வேளாண் துறை மூலம் 90 ஏக்கரில் பருத்தி மற்றும் சாகுபடிப் பயிர்களில் துல்லிய பண்ணையம் அமைக்கப்பட உள்ளது. தோட்டக்கலை துறை மூலம் கத்திரி, வெண்டைக்காய், மரவள்ளி மற்றும் ரோஜாப்பூ சாகுபடியில் 90 ஏக்கரில் துல்லிய பண்ணையம் அமைக்கப்பட உள்ளது. இதற்காக வலங்கைமான் தாலுகா

நல்லூர் கிராமத்தில் 67 விவசாயிகளும், நீடாமங்கலம் தாலுகா கருவாக்குறிச்சி, ஓவேல் குடி, நல்லிக்கோட்டை ஆகிய கிராமங்களில் 26 விவசாயிகளும், மன்னார்குடி தாலுகா மேல ஓகையில் 9 விவசாயிகளும் தொடர்பு கொள்ளப்பட்டு நடவடிக்கைகள் மேற்கொள்ளப்பட்டு வருகின்றன. ஒரு ஏக்கரில் துல்லிய பண்ணையம் அமைக்க 50 சதவீத மானியம் அல்லது ரூ. 40 ஆயிரம் இதில் எது குறைவோ அது வழங்கப்பட உள்ளது. திருவாரூர், நன்னிலம், குடவாசல், திருத்துறைப்பூண்டி, மன்னார்குடி ஆகியவற்றில் தானியங்கி வானிலை மையம் வேளாண் பல்கலைக்கழகம் மூலம் 3லட்சம் ரூபாய் மதிப்பில் அமைக்கப்பட உள்ளது. இதே போல் வேலையற்ற வேளாண் பட்டதாரிகள் மூலம் வேளாண் தகவல் மையம் மற்றும் நடமாடும் மண்பரிசோதனை நிலை மையம் 6லட்சம் ரூபாய் மதிப்பில் அமைக்கப்பட உள்ளது. இதில் 3லட்சம் ரூபாய் வங்கிக்கடனாகவும், 3லட்சம் ரூபாய் மானியமாகவும் வழங்கப்பட உள்ளது. இவ்வாறு அவர் தெரிவித்தார்.

## Thiruvavarur district soil legend

### Legend

	DEEP, COARSE LOAMY, MIXED, ENTISOLS
	DEEP, FINE LOAMY, MIXED, ALFISOLS
	DEEP, FINE LOAMY, MIXED, INCEPTISOL
	DEEP, FINE LOAMY, MIXED, ULTISOLS
	DEEP, FINE SILTY, MIXED, INCEPTISOL
	DEEP, FINE, MIXED, ALFISOLS
	DEEP, FINE, MIXED, INCEPTISOL
	DEEP, FINE, MIXED, ULTISOLS
	DEEP, FINE, MONTMORILLONITIC, VERTISOLS
	MODERATELY DEEP, FINE, MIXED, ALFISOLS
	MODERATELY SHALLOW, FINE LOAMY, MIXED, ALFISOLS
	MODERATELY SHALLOW, FINE LOAMY, MIXED, INCEPTISOL
	SHALLOW, CLAYEY, MIXED, ENTISOLS
	VERY DEEP, COARSE LOAMY, MIXED, ENTISOLS
	VERY DEEP, COARSE LOAMY, MIXED, INCEPTISOL
	VERY DEEP, FINE LOAMY, MIXED, ALFISOLS
	VERY DEEP, FINE LOAMY, MIXED, ENTISOLS
	VERY DEEP, FINE LOAMY, MIXED, INCEPTISOL
	VERY DEEP, FINE LOAMY, MIXED, ULTISOLS
	VERY DEEP, FINE, MIXED, ENTISOLS
	VERY DEEP, FINE, MIXED, INCEPTISOL
	VERY DEEP, FINE, MONTMORILLONITIC, VERTISOLS
	WATERBODY / SETTLEMENT / MISCELLANEOUS LANDFORM