Tamil Nadu Agricultural University

XII Five Year Plan

Abstract of projects and budgets under each programme

Sl.No.	Title	Budget					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
5.1.	**AGRICULTURAL EDUCATION**						
	1. Curriculum redesigning to fit to the International standards including the introduction of new degree programmes	3000	2125	2	-	-	5127
	2. Centre of Excellence in Agricultural Information Technology	664	164	24	24	22	898
	3. Establishing the Horticultural College & Research Institute for Women	530	530	280	280	280	1900
	4. Establishment of Sericulture College & Research Institute at TNAU	150	150	-	-	-	300
	5. Digitization of books and development of web portal for TNAU Library	1000	800	600	-	-	2400
	6. Strengthening infrastructure facilities in the seven constituent colleges of TNAU	1550	1550	-	-	-	3100
	7. Knowledge empowerment of farmers by ODL (BFTECH)	225	225	225	225	225	1125
	Sub Total	**7119**	**5544**	**1131**	**529**	**527**	**14850**
5.2.	**AGRICULTURAL RESEARCH**						
5.2.1.	**CROP IMPROVEMENT**						
	1. Collection, Characterization and Conservation of germplasm in crops of interest and strengthening the existing Ramiah Gene Bank and establishing Plant Genetic Resources Conservation Network	140	80	60	10	10	300
	2. Evolution of Biotic and Abiotic stress tolerant varieties of rice, pulses, oilseeds, cotton with higher yield potential through integrative breeding	20	20	20	20	20	100
	3. Creating centre of excellence for hybrid breeding at TNAU, Coimbatore and identification / development of new male sterility sources in major crops	205	205	180	205	205	1000
	4. Developing varieties / hybrids with high nutritive values such as improved Vit A, Fe and Zinc content and enhanced therapeutic values	20	20	20	20	20	100

	5. Augmenting feed supply to animal population through breeding interventions	20	20	20	20	20	100
	6. Climate resilient variety / hybrid development and developing genotypes for late monsoon and coastal ecosystem	20	20	20	20	20	100
	7. Developing varieties with synchronized maturity in blackgram, greengram, soybean, cotton etc. to facilitate mechanized harvesting	20	20	20	20	20	100
	8. Establishing quality testing centres for rice, millets, oilseeds, pulses, vegetables and mango	957	957	607	557	422	3500
	9. Establishment of Institute of fodder research and Production	2368	3357	435	443	452	7055
	10. Developing pulse varieties exclusively for rice fallow situation	24	10	10	9	9	62
	Sub Total	**3794**	**4709**	**1392**	**1324**	**1198**	**12417**
5.2.2.	**CROP MANAGEMENT**						
	1. Developing integrated farming system models for improving marginal and small farm profitability	510	198	122	85	85	1000
	2. Establishing Centre of Excellence for Dry land Agriculture at Dryland Agricultural Research Station, Chettinad	500	150	100	125	125	1000
	3. Establishing Centre of Excellence in Organic Agriculture at Agrl. Engineering College & Research Institute, Kumulur	500	150	100	125	125	1000
	4. Productivity Enhancing Management Technologies (Precision Farming Technologies) for Maize, Cotton, Oilseeds and Pulses	700	600	400	225	225	2150
	5. Providing weather based agro advisory services at *block* level in Tamil Nadu for minimising crop production risk including maintenance	120	95	95	95	95	500
	6. Land resource inventory and GIS database for block, village and farm level planning	30	30	30	30	30	150
	7. Centre for Disaster Management	2000	250	250	250	250	3000
	8. Utilizing standardized package of practices for improving the pulse yield under rice fallow conditions	22	18	17	17	17	91
	9. Pulse Drip Fertigation along with standardization of fertilizer for pulses as done in Maharastra	300	100	100	100	100	700
	10. Focus on package approach to solve inter district field problems, wide yield variations etc., at least for one crop and few districts on pilot basis	200	200	200	100	100	800
	Sub Total	**4882**	**1791**	**1414**	**1152**	**1152**	**10391**

5.2.3.	**SOIL HEALTH MANAGEMENT**						
	1. Establishing Centre of Excellence on soil health including problem soils, degraded lands, waste utilization and managing pollution at Agrl. College & Research Institute, Trichy including Micro analytical lab for soil analysis	320	150	150	150	150	920
	2. Establishment of Central Control Laboratory for Bio fertilizers	190	40	40	40	40	350
	3. Establishment of Soil and Environment Research Centre at Tiruppur	300	200	100	100	100	800
	4. Integrated Nutrient Management for soil organic matter buildup and fertility improvement	120	90	90	90	90	480
	5. Problem soil management	55	35	35	35	35	195
	6. Rehabilitation of degraded lands	40	30	25	25	25	145
	7. Microbial consortia development	55	40	40	35	35	205
	8. Nanotech approaches for soil health maintenance	85	30	30	30	30	205
	9. Development of advanced compost technology and pollution abatement	200	150	150	150	150	800
	Sub total	**1365**	**765**	**660**	**655**	**655**	**4100**
5.2.4.	**CROP PROTECTION**						
	1. Conservation of Insects Biodiversity and Establishment of Insect biosystematics centre	40	40	20	-	-	100
	2. Development of Novel Plant biomolecules based Biopesticides for eco friendly protection against major pests in agricultural crops and vegetables	10	10	10	10	10	50
	3. Bio Ecology of nematodes and its management in vegetables under poly-house condition	10	10	10	10	10	50
	4. Management of diseases of agricultural crops, cut flowers and vegetables through synthesis and experimentation using newer molecules	10	10	10	10	10	50
	5. Strengthening Residue Laboratory	100	100	-	-	-	200
	6. Strengthening the crop protection packages for improving the yield of pulses in rice fallow conditions	4	3	3	3	3	16
	Sub Total	**174**	**173**	**53**	**33**	**33**	**466**
5.2.5.	**HORTICULTURE**						
	1. Centre of Excellence in Precision Farming	500	300	200	-	-	1000
	2. Developing hybrids in coconut	3	3	3	3	3	15

	3. Developing high yield, high starch and CMD resistant cassava varieties	12	12	12	12	12	60
	4. Improvement of yield and imparting resistance to Sigatoka leaf spot disease in banana through breeding	5	5	5	5	5	25
	5. Enhancing the productivity and quality of select horticultural crops through validation and demonstration of precision farming modules involving participatory approaches	70	70	70	70	70	350
	6. Validating high density planting systems in horticultural crops (mango, guava, cashew)	30	30	30	30	30	150
	7. Demonstration of protected cultivation of cut flowers and vegetables	100	90	90	-	-	280
	8. Strengthening micro analytical laboratory	70	70	60	60	60	320
	9. Increasing GAP orchards in Tamil Nadu @ one orchard per district	141	32	15	68	19	275
	10. Offering certificate training programme on protected cultivation	7	7	7	7	7	35
	Sub Total	**797**	**587**	**477**	**187**	**187**	**2235**
5.2.6.	**QUALITY SEED PRODUCTION AND DISTRIBUTION**						
	1. Production and supply of breeder seeds in agricultural crops to meet the demand of public and private sector by TNAU	262	162	60	10	10	504
	2. Quality certified seeds production and distribution - TNAU	371	1086	1075	-	-	2532
	3. Quality certified seeds production and distribution – Dept. of Agriculture	45	4241	4198	-	-	8484
	Sub Total	**678**	**5489**	**5333**	**10**	**10**	**11520**
5.2.7.	**COMPLETE MECHANIZATION**						
	1. Development of model Research Stations with modern technologies to demonstrate the completely mechanized cultivation of identified crops	400	400	400	-	-	1200
	Sub Total	**400**	**400**	**400**	**-**	**-**	**1200**
5.2.8.	**FOOD PROCESSING INCUBATORS**						
	1. Establishing Food Processing Business Incubator (FPBI) each one at 30 districts in Tamil Nadu	1275	4335	6470	970	1950	15000
	Sub Total	**1275**	**4335**	**6470**	**970**	**1950**	**15000**

5.2.9.	**AGRI-BUSINESS DEVELOPMENT**						
	1. Establishment of Student Innovation Bureau	54	54	54	54	54	270
	2. Establishment of Lab to Market Unit	80	80	85	90	95	430
	3. Establishment of Entrepreneurial hub for quality bio products	84	84	44	44	44	300
	Sub Total	**218**	**218**	**183**	**188**	**193**	**1000**
5.2.10.	**RESEARCH IN FRONTIER AREAS**						
	a. Bio-Technology						
	1. Development and popularization of varieties in agricultural crops through biotechnological interventions with special reference to rice	77	49	49	35	35	245
	2. Micropropagation, root and callus cultures for large scale production of secondary metabolites of pharmaceutical importance	11	8	8	8	8	43
	3. Bio-fortification of Vitamin E in rice grains through genetic transformation	13	9	9	9	9	49
	4. Microbial biotechnology based approaches to develop industrial products for application in agriculture and food sector	9	7	7	-	-	23
	b. Bioenergy						
	1. Design and Development of advanced reactors and devices for the recovery of energy and manure from bio mass and bio waste	70	46	3	-	-	**119**
	c. Biofuels						
	1. Inventory and assemblage of superior TBO's genetic resources of Tamil Nadu for biodiesel production	5	4	4	4	4	21
	d. Nanotechnology						
	1. Nanotechnological Approaches to sustain soil health and for ensuring Food Security	146	31	31	31	31	270
	Sub Total	**331**	**154**	**111**	**87**	**87**	**770**
5.2.11.	**FORESTRY RESEARCH**						
	1. To inventorize and develop technologies through strong scientific innovations to improve the wood quality and for strengthening silvicultural practices to cater to the domestic and industrial needs	20	20	20	20	20	100
	Sub Total	**20**	**20**	**20**	**20**	**20**	**100**
5.2.12.	**MODERNIZING FARMS OF IDENTIFIED RESEARCH STATIONS**						
	1. Strengthening the infrastructure of the century, platinum, gold and silver jubilee research stations	4000	3650	2000	-	-	9650
	Sub Total	**4000**	**3650**	**2000**	**-**	**-**	**9650**

5.2.13.	**ESTABLISHMENT OF REGIONAL RESEARCH AND DEVELOPMENT CENTRES**	5000	1000	1000	1000	1000	9000
	Sub Total	**5000**	**1000**	**1000**	**1000**	**1000**	**9000**
5.2.14.	**ESTABLISHMENT OF AGRICULTURAL RESEARCH STATION IN THIRUVANNAMALAI DISTRICT**	610	360	315	340	375	2000
	Sub Total	**610**	**360**	**315**	**340**	**375**	**2000**
5.2.15.	**RESEARCH COORDINATION**						
	1. Research priority setting, Project monitoring and Creation and maintenance of Data Bank for line departments and State Planning Commission	390	160	155	150	145	1000
	Sub Total	**390**	**160**	**155**	**150**	**145**	**1000**
5.2.16.	**SOCIAL SCIENCES RESEARCH**						
	1. Establishing centre of excellence in Social sciences	200	100	100	65	65	530
	2. Documentation of TNAU Technology Adoption and Constraints in various Agro – Climatic Zones	16	16	16	16	16	80
	3. Value Chain Analysis for Major Agricultural Crops in Tamil Nadu State	9	8	8	-	-	25
	4. Establishing and Networking of Agricultural Market Intelligence Systems	60	60	60	60	60	300
	5. Amplification of Intellectual Property Rights Facility at TNAU, Coimbatore	45	5	5	5	5	65
	Sub Total	**330**	**189**	**189**	**146**	**146**	**1000**
5.3.	**AGRICULTURAL EXTENSION EDUCATION**						
	1. Strengthening IT based e-extension activities in TNAU including TNAU Agri-Tech Portal, Dynamic Market Information and Mobile based agro-advisory services	199	199	199	199	198	994
	2. Establishment of Community Radio Centres in select locations and Agricultural Extension Education strengthening	1000	506	500	200	200	2406
	3. Participatory precision farming demonstrations in blocks and training on maintenance of drip systems	400	400	400	400	400	2000
	4. Training the scientists on Team building and Stress Management	10	10	10	10	10	50
	5. Massive training to line department officials on latest technologies for capacity building	30	30	30	30	30	**150**

	6. Establishment of TNAU Regional Training Centres (TNAU RTCs) for imparting Simulation training to the line department officials	1240	240	240	240	240	**2200**
	7. Strengthening of KVKs - Establishment of Farm Information Centres / Regional Extension Centres in NGO operated KVK districts	500	500	500	500	500	**2500**
	8. Establishment of separate TV channel	1240	1010	1010	1010	1010	**5280**
	Sub Total	**4619**	**2895**	**2889**	**2589**	**2588**	**15580**
5.4.	**HUMAN RESOURCES DEVELOPMENT**						
	1. Appointment of new scientific man power to fill up vacancies	750	750	750	750	750	3750
	2. Provision of contingencies and travel allowances @ 1 lakh per scientist for effective utilization of available scientific and supportive man power	1359	1359	1359	1359	1359	6795
	3. Training in frontier areas through National and International institutions	420	420	420	420	420	2100
	Sub Total	**2529**	**2529**	**2529**	**2529**	**2529**	**12645**
	Grand Total	**38531**	**34968**	**26721**	**11909**	**12795**	**124924***

* Out of the total proposed budget of **Rs.1,24,924 lakhs,** a sum of **Rs.8,484 lakhs** under the production distribution of certified seeds and **Rs.15,000 lakhs** under establishment of Food Processing Business Incubator (FPBI) will be spent by the development departments concerned. **Hence, the financial requirement for programmes proposed for TNAU will be Rs.1,01,440 lakhs only.**

a. Abstract of projects and budgets under each programmes: For Hi-tech Agriculture / Horticulture

Sl.No.	Title	Budget					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
	I. INNOVATIVE PROJECTS FOR TNAU						
	Farmer Participatory Operational Research	50.00	12.50	12.50	12.50	12.50	100.00
	R&D in ICT in Agriculture	50.00	12.50	12.50	12.50	12.50	100.00
	Research on Bio Char in Agriculture	50.00	12.50	12.50	12.50	12.50	100.00
	Model Eco Tourist Farm	25.00	6.25	6.25	6.25	6.25	50.00
	Participatory Farming Project	150.00	37.50	37.50	37.50	37.50	300.00
	Total	**325.00**	**81.25**	**81.25**	**81.25**	**81.25**	**650.00**
	II. SECONDARY AGRICULTURE						
	Promotion of producers Companies and Commodity Groups by establishing Krishi Business Kendra	175.00	43.75	43.75	43.75	43.75	350.00
	TN Institute of farm mechanization	500.00	125.00	125.00	125.00	125.00	1000.00
	Centre of Excellence for Precision farming						-
	Centralised Referral lab for Micro Nutrients	250.00	62.50	62.50	62.50	62.50	500.00
	Advanced Centre of Research and Higher Learning	1500.00	375.00	375.00	375.00	375.00	3000.00
	Total	**2425.00**	**606.25**	**606.25**	**606.25**	**606.25**	**4850.00**
	Grand Total	**2750.00**	**687.5**	**687.5**	**687.5**	**687.5**	**5500.00**

The detailed budget is provided under draft approach paper on Hi-tech agriculture and agricultural research by the Dept. of Horticulture and Plantation Crops, Chennai.

Tamil Nadu Agricultural University

XII Five Year Plan

OVERALL ABSTRACT

(Rs. in lakhs)

Sl.No.	Title	Budget					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
a.	Abstract of projects and budgets under each programmes: For Agriculture	**38531**	**34968**	**26721**	**11909**	**12795**	**124924***
b.	Abstract of projects and budgets under each programmes: For Hi-tech agriculture / horticulture	2750.0	687.5	687.5	687.5	687.5	5500.00
	Grand R & D total	**41281**	**35655.5**	**27408.5**	**12596.5**	**13482.5**	**130424**

* Out of the total proposed budget of **Rs.1,24,924 lakhs,** a sum of **Rs.8,484 lakhs** under the production distribution of certified seeds and **Rs.15,000 lakhs** under establishment of Food Processing Business Incubator (FPBI) will be spent by the development departments concerned. **Hence, the financial requirement for programmes proposed for TNAU will be Rs.1,01,440 lakhs only.**

The Hi-tech agriculture / horticulture and agriculture research budget was included in the working paper of Dept. of Horticulture and Plantation Crops, Chennai.

Hence, the total budget for TNAU during the 12th Five Year Plan for the special programmes will be Rs.1,06,940 lakhs.

The above proposed budget for research and development in TNAU in the 12th Five Year Plan is in addition to the budget that will be sanctioned under plan and NADP and other programmes during the 12th Plan period.