TAMIL NADU AGRICULTURAL UNIVERSITY

PROCEEDINGS

12th Social Sciences Scientists' Meet
(09.05.2024)

LEAD CENTRE

Centre for Agricultural and Rural Development Studies
Tamil Nadu Agricultural University
Coimbatore - 641003

Directorate of Research
Tamil Nadu Agricultural University
Coimbatore – 641 003

2024

PROCEEDINGS

12th Social Sciences Scientists" Meet
(9th May, 2024)

The 12th Social Sciences Scientists' Meet was held on 9th May, 2024 at TNAU, Coimbatore. Social Scientists working in other campuses, KVKs, and research stations participated in person.

The meeting was chaired by **Dr. V. Geethalakshmi**, Vice-Chancellor and offered opening remarks. Madam suggested to identify location-specific research problems in each district and may be circulated to all the Directorates of TNAU for formulation of research projects. Efforts may be taken to communicate price advisories /market information of commodities in all Colleges/Research Stations/KVKS and also link through *Uzhavan* apps.

Dr. M. Raveendran, Director of Research, TNAU, Coimbatore delivered welcome address. It was suggested that the adoption rate of e-NAM and strategies to improve the e-NAM may be analysed and efforts may be taken to reach more number of farmers through KVKs. It was insisted that social scientists should be involved in research projects of biological sciences. District-wise business plan and commercialization opportunities for smallholder Agri./Horti. Farms may be prepared and popularized.

Dr. D. Suresh Kumar, Director, CARDS, presented the overview and the status of Social Sciences Research at CARDS and research highlights of the projects implemented during 2023-24. The Director, CARDS has reviewed all the completed and ongoing projects of the Social Scientists on 08.05.2024 in the pre-Social Scientists Meet.

The action taken report of the 11th SSSM, research highlights from the completed projects, the progress of the ongoing projects, and action plan for 2024-25 of the Department of Agricultural Economics, Dept of Agrl Extension and Rural Sociology, and Department of Agricultural and Rural Management were presented by the respective Professor and Heads of the Departments.

Dr. V. Saravanakumar, Research Coordinator of the Directorate of CARDS, proposed the formal vote of thanks.

The proceedings of 12th Social Sciences Scientists' Meet is furnished below:

I. CENTRE FOR AGRICULTURAL AND RURAL DEVELOPMENT STUDIES (CARDS)

Key findings of completed projects
Action Plan (2024-2025)
Details of research projects and remarks of the ongoing projects

II. AGRICULTURAL ECONOMICS

Key findings of completed projects
Action Plan (2024-2025)
Details of research projects and remarks of the ongoing projects

I. CENTRE FOR AGRICULTURAL AND RURAL DEVELOPMENT STUDIES (CARDS)

A. Key findings of completed projects

a. Externally funded projects

S. No.	Project Number	Project Title	Project Period	Project Leader (PI/Co-PI)
a.	**Externally funded Projects**			
1.	NADP/CARDS /CBE/AEC/2019/R019	Implementation and Evaluation of National Agricultural Development Programme at TNAU, Coimbatore	April 2022-March 2024	Dr. D. Suresh Kumar Dr. M. Prahadeeswaran

Impact Analysis and the report to be submitted.

B. Action Plan (2023-2025)

S. No.	Project Number and Project Title	Project Period	Project Leader (PI/Co-PI)	Activities	Deliverables / expected output
a.	**Externally funded Projects**				
1.	**NABARD/CARDS/CBE/AEC/2022/R001** Rainfall and Tank Storage: Relooking the Tank Performance with Time Tested Tank Storage Pattern using Tank Cascade Approach in Tamil Nadu	Mar 2022-June 2024	Dr. D. Suresh Kumar Dr. K.R. Ashok Dr. S. Paneerselvam Dr. S. Pazhanivelan Dr. A. Vidhyavathi Dr. V. Saravanakumar Dr. V. Karthick Dr. R. Kumaraperumal	Report preparation	Completion of report and publication of policy brief and policy document.
2.	**TAWDEVA/CARDS/CBE/AEC/2017/E001** Final Evaluation of Watershed Projects of Tamil Nadu, Completed under DPAP/ IWDP, preparatory phase IWMP and NWDPRA XI plan.	July 2018 to June 2024	Dr. D. Suresh Kumar Dr. S. Padma Rani Dr. A. Vidhyavathi Dr. V. Karthick	Data analysis and report preparation	Impacts of Watershed development programmes in the state.

3.	**TAWDEVA/CARDS/ CBE/AEC/2020/ R022** Impact Evaluation of Watershed Development Projects implemented under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) - (Erst while IWMP) during 2011-12)	Sep 2020-June 2024	Dr. D. Suresh Kumar Dr. A. Vidhyavathi	Data analysis and report preparation	Impacts of Watershed development programmes in the state.
4.	**NABARD/CARDS/CBE/AEC/2022/R002** Impact Evaluation of Watershed Development Projects implemented under WDF (Watershed and Climate Proofing) of NABARD in Tamil Nadu	December 2022-June 2024	Dr. D. Suresh Kumar Dr. A. Vidhyavathi Dr. V. Karthick Dr. S. Padma Rani Dr. S. Angles	Data analysis and report preparation	Impacts of Watershed development programmes in the state.

C. Details of research projects

A total of 5 numbers of externally funded projects were reviewed. Out of which, one project was completed and four projects are ongoing.

Current Status of Research Projects

Externally funded projects		**Core projects**		**University sub projects**		**Total**	
Completed	Ongoing	Completed	Ongoing	Completed	Ongoing	Completed	Ongoing
1	**4**	**-**	**-**	**-**	**-**	**1**	**4**

D. Remarks of the ongoing projects

Sl. No.	**Project Number**	**Project Period**	**Project Leader (PI/Co-PI)**	**Remarks**
a.	**Externally funded Projects**			
1.	**NABARD/CARDS/CBE/AEC/2022/R001** Rainfall and Tank Storage: Relooking the Tank Performance with Time Tested Tank Storage Pattern using Tank Cascade Approach in Tamil Nadu	Mar 2022-June 2024	Dr. D. Suresh Kumar Dr. K.R. Ashok Dr. S. Paneerselvam Dr. S. Pazhanivelan Dr. A. Vidhyavathi Dr. V. Saravanakumar Dr. V. Karthick Dr. R. Kumaraperumal	Completion of project report, publication of policy brief

2.	**TAWDEVA/CARDS /CBE/AEC/2017/E 001** Final Evaluation of Watershed Projects of Tamil Nadu, Completed under DPAP/ IWDP, preparatory phase IWMP and NWDPRA XI plan	July 2018 to June 2024	Dr. D. Suresh Kumar Dr. S. Padma Rani Dr. A. Vidhyavathi Dr. V. Karthick	The project may be completed.
3.	**TAWDEVA/CARDS /CBE/AEC/2020/ R022** Impact Evaluation of Watershed Development Projects implemented under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) - (Erstwhile IWMP) during 2011-12	Sep 2020-June 2024	Dr. D. Suresh Kumar Dr. A. Vidhyavathi	The project may be completed.
4.	**NABARD/CARDS/CBE/AEC/2022/R002** Impact Evaluation of Watershed Development Projects implemented under WDF (Watershed and Climate Proofing) of NABARD in Tamil Nadu	December 2022-June 2024	Dr. D. Suresh Kumar Dr. A. Vidhyavathi Dr. V. Karthick Dr. S. Padma Rani Dr. S. Angles	The project may be completed.

II. DEPARTMENT OF AGRICULTURAL ECONOMICS

A. Key findings of completed projects

a. Externally Funded projects

1. NAF/ CARDS / AEC / CBE / 2022 / R003. Impact Evaluation Study of Arasur Watershed project in Chengalpattu district Implemented by National Agro Foundation, Chennai. (Dr. S. Padma Rani, Dr. A. Vidhyavathi, Dr. V. Saravanakumar, Dr. V. Karthik)

- The value of farm household assets has increased from Rs. 1, 38,450 before the project period to Rs. 1,78,452/- after the project.
- Area irrigated by wells increased from 1.28 ha. to 1.45 ha per farm (13.28 % increases) after the watershed activities.
- On average, the rise in water table by 1.4 m from 3.86 meters to 5.26 meters in the beneficiaries' villages during the watershed treatment period.
- Average wet land area had increased from 0.98 ha to 1.10 ha (12.27 %), Also the average area under tree crops was increased from 0.10 ha to 0.21 ha (110 %) and area sown more than once increased from 1.28 ha to 1.62 ha (26.56 %) per farm.
- Fertility status of soil in the sample farms have been improved a lot from acceptable (3) to good condition (4) during the before and after watershed activities.
- The irrigation intensity has increased from 109.05 to 126.35 % around 17.30 % change in the study area.
- The area under paddy crops has increased from 56.94 to 61.53 % in after watershed program followed by groundnut which has increased from 11.44 % to 12.15 % in before and after the watershed treatment, the area under black gram has also increased from 6.24 % to 7.06 %.
- About 22.88 % increment in cattle population, and the average milk production had increased about 51.58 % after the period of watershed implementation in the study region.
- The per capita income has increased about 146.81 % during before and after the period of watershed programs (approximately after 10 years of implementation) in the study region.
- SHGs loans ranging from 20,000 to 50,000 have been availed by the sample SHGs members in the beneficiary villages and 80.95 % of the SHGs were found to be active.
- The crop-insured farmers constituted about 84.17 % of the total respondents and the share of non-insured farmers was found to be 15.83 % of the total respondents. The crop insurance premium fall in the range between Rs. 950 to 1300 per hectare.

Recommendations:

- The watershed development projects achieved the anticipated outcomes, although their effects differed. As a result, the watershed effect assessment should be prioritized in future planning and development activities.
- In addition to these public efforts, private investments in the form of farm ponds may be encouraged, as these structures contribute significantly to the harvesting of available rainfall and, hence, groundwater recharging.
- The watershed program should focus on building the capacity of farmers and local communities to adopt sustainable land use and water conservation practices. This can be achieved through training programs, demonstrations, and extension services.
- Overall, the implementation of a well-designed watershed program in Tamil Nadu can have significant positive impacts on agricultural productivity, water availability, and soil health. These policy suggestions can help to ensure the success and sustainability of such a program.

2. STGS/CARDS/CBE/AEC/2021/R026. Performance Evaluation of Primary Producers societies of Tea in the Nilgiris District (Dr. K.N. Selvaraj, Dr. R. Parimalarangan, Dr. K. R. Karunakaran, Dr. K. Divya)

- The study reveals a declining trend in the tea industry, with prices plummeting from Rs. 69/kg in 1998 to Rs. 38/kg in 2000, while production costs remain high. South Indian tea faces greater price volatility due to quality issues in green leaves.
- Despite varying establishment periods, there's no discernible impact on society performance. Additionally, there's no correlation between performing and non-performing societies in terms of membership and area coverage. To address challenges, strategic measures like value addition, diversification, and member cooperation are crucial for non-performing societies.

b. University Research Projects

3. CARDS/ MDU/ AEC/2020/002. An Economic Analysis of Vulnerability, Resilience and Adaptation to Climate Change on Livelihood Security and Crop Planning of Dry Land Farms of Madurai District (Dr. J.S. Amarnath, Dr. B. Sivasankari)

- The study highlights the vulnerability of Thirumangalam block to climate change, while Kallupatti, Sedapatty, and Usilampatty blocks exhibit moderate vulnerability.
- Ecological sustainability favors sorghum due to higher FYM and fertilizer application, though cotton demonstrates superior economic viability. Both crops exhibit high input self-sufficiency but sorghum requires more labor.

- Resilience in dry land agro ecosystems necessitates addressing migration and enhancing savings. Green technology adoption emphasizes organic manure, varietal diversification, and drought-tolerant crops.
- Socio-economic strategies to combat climate change include borrowing and reducing consumption. CARE model analysis indicates decent habitat and social network security but poor economic and health security.
- Farmer perceptions prioritize yield decline, pest outbreaks, and erratic rainfall as climate change impacts. Labor shortage poses a significant constraint in adopting climate-resilient technologies.

[4. CARDS/VAZ/ SUG/ 2022/001. Impact of Mechanization in Sugarcane Production in Cost Reduction and Income Enhancement (Dr. S. Angles)

- The cost of cultivation for the sugarcane is Rs. 3,11,398/ha in the conventional method of cultivation and Rs. 2,47,128 /ha in mechanized cultivation. The benefit cost ration for the conventional method of sugarcane cultivation is 1.13 and 1.30 for the mechanized sugarcane production.
- The harvest and transport cost for the sugarcane constitutes 45.83 % of the total cost of cultivation in the conventional method and 42.74 % in case of mechanized cultivation which can save up to Rs. 32,000 /ha. The use of sugarcane harvester can reduce the harvesting cost per tonnes from Rs.1050 to Rs.794 that can save 24.38 % of harvesting cost.
- The major constraints faced by the farmers in sugarcane production is the Labour scarcity, Late harvest due to labour scarcity and higher harvesting charge, which alone accounts for 31.34 % in the sugarcane price.
- 75.83 % of the farmers adopt the use of inter cultivator for the second weeding and half earthing-up as the labour cost is very high due the constraint faced in entering into the well grownup sugarcane crop. 94.16 % of the farmers doesn't follow detrashing as they reported that it requires additional cost and also due to labour scarcity. Sugarcane set cutter cum planter is not used by the farmers as it is not available in the study area and the cost of labour is less than the set cutter cum planter.
- Only 12.50 % of the sugarcane farmers use the sugarcane harvester and remaining farmers still depend on the labour due to adoption of improper plant spacing and small size of field. In the usage of sugarcane harvester the constraint faced by the farmers is that around 12 % of the sugarcane is not harvested due to lodging which requires additional cost for labour

5. CARDS/CBE/AEC/Social SCI/2023/167. Agricultural Trade Analysis and Market Research using Big Data Analytics (Dr. M. Prahadeeswaran)

- US Consumer preference towards the brands (Spice Train, Tellicherry), quantity (11 and 14 oz) and price (15 – 25 USD package) of pepper were found. Similarly, preference to basmati rice and cashew nuts were also identified using the data collected from e-commerce portal of the concern countries.

- Constrains in use of Big Data tools: High end technical requirements (software and hardware), technical man power and legal aspect (property rights)

Recommendations

- The study reports depend on large amount of data may be prepared with data visualization (links) will give clear picture on results and also saves time.
- Though establishment of modern analytical facility is costlier, the analytical tool was very efficient and saves lot of time and money (ex. Web scrapping).

B. Action Plan (2024-2025)

S. No.	Project Number and Project Title	Project Period	Project Leader (PI/Co-PI)	Activities	Deliverables/ expected output
a.	**Externally funded Projects**				
1.	**GOI/CARDS/CBE/AEC/1970/R001** Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in Tamil Nadu.	Continuous Scheme Since 1970	Dr. S. Senthilnathan Dr. V. Karthick	Collection and compilation of cost data on major crops Collection of Input and output price data for major crops	Data on inputs, output, costs, farm inventory and social dynamics Inputs for implementing price policies.
2.	**CARDS-ICSSR/CBE/AEC/2022/R001** Ecosystem for Transition to Cashless Agrarian Economy in Tamil Nadu Challenges and Implications	March-2022 to Feb - 2024	Dr. A. Vidhyavathi Dr. S. Padma Rani Dr. P. Balaji	Secondary data was collected and documented Development index was constructed	The percentage of farmers adopting cashless transaction in Tamil Nadu will be examined. Level of adoption of cashless transaction by farmers input dealers traders and Agrl labours will be assessed. Reasons for non-adoption and factors influencing the level of adoption will be furnished. Policy suggestions at stakeholders' level institutions and policy makers will be provided.
3.	**ICSSR/CARDS/CBE/AEX/2023/R001** Impact of PM-KISAN scheme on farm income and agricultural technology adoption in South India.	Sept 2023-Dec 2024	Dr. V. Saravanakumar, Dr. K. Nirmal Ravi Kumar, Dr. K. B. Vedamurthy, Dr. M. Umanath,	Collected the Primary data from 2500 households. Completed the analysis of income	Provides information about whether a program is making a positive difference in the lives of its SMFs. This study can help policy-makers in determining priorities, such as whether to

			Dr. M. Chandrakumar, Dr. K. Harishankar, Dr. R. Paramasivam,	diversification, impact of PM-KISAN using PSM. Data collection, report writing and Policy Workshop have been completed. Submitted the final Report to the ICSSR for final approval and release of 3rd installment	scale up the PM-KISAN or improve the program, or downscale or replace it. It highlights the future directions / improvements that should be carefully studied before being incorporated into a financial aid program and suggests renewed efforts by the government in terms of designing appropriate mechanisms and including the right beneficiaries. This research emphasizes how the scheme should equally be addressed to reduce the credit constraints faced by farmers so as to increase their adoption of modern agricultural technologies, and improve their productivity.
4.	**TNFD – TBGPTCR/ FC&RI/MTP/2024/R002** Baseline Survey on Climate Change Impact in Manavadi Village, Karur Dt of Tamil Nadu.	Mar 2024-Aug 2024	Dr S. Varadha Raj Mettupalayam Dr. A. Balasubramanian	Completed the Field survey. Report writing is under progress.	A comprehensive description of the current and historical climate patterns in Manavadi, including temperature, rainfall, drought occurrences, and seasonal variability.

					Documentation of the types of crops that are most vulnerable to climate change and those that are better adapted to the changing conditions.
5.	**APEDA / CARDS / CBE / AEC / 2023/ R002** Supply Chain Management of Fruits and Vegetable Processing Industry in Tamil Nadu	Jan 2023-June 2024	Dr. M. Thilagavathi, Dr. C. Indu Rani	The export details were collected from APEDA website for the period between 2021-22 the data observed it is finalized to select mango, cucumber and gherkin processing industries in Tamil Nadu for the study. Questionnaire preparation work was carried out for the industrial survey and data collection was completed from 8 number of processing units.	To examine the different actors / stakeholders involved in the different Supply chains of Fruits and Vegetables Processing To identify the issues / constraints faced by the different stakeholders in the Supply Chain Management
6.	**ICSSR – RMM-2023-601-** Impact Assessment study of Farmer Producers Organizations on Livelihood of Farmers in Tamil Nadu.	Jan 2024-Mar 2025	Dr. A. Malaisamy (P&H)	Survey schedule is prepared and test survey was completed. Methodology was finalized & identified the sample FPOs	To analyse of changes in farmers' income levels after joining FPOs, including potential increases due to collective bargaining, better market access, and improved pricing for produce towards income enhancement

				Primary data was collected from the selected FPOs	To evaluate the farmers' enhanced access to inputs through FPOs, which could lead to more efficient farming practices. Providing the insights into how FPOs have facilitated stronger market linkages for farmers, leading to more stable and profitable market access.
7.	F36RI-TNFD Regulated timber and NTFPS markets in Tamil Nadu	Jan 2024-Jun 2024	Dr S. Varadha Raj Dr A. Balasubramanian Dr. S. Hemalatha	Five stakeholders' meetings were at Tirunelveli, Kanyakumari, Dindigul, Salem, And Thanjavur Districts. Field survey is completed. Report writing is under progress.	Designing and launching e-portal (Tamilmaram) for trail basis. Estimating the demand and supply of major timbers and NTFPs Identifying the major marketing channels for timber and NTFPs
b.	**University Research Project**				
1.	**IPMC – FMC CARDS/CBE/AEC/2021/ R025** Documentation of Select Agricultural Commodities for GI Registration in Tamil Nadu	Dec- 2021 to Nov-2024	Dr. M. Anjugam Dr. N. Kiruthika Dr. D. Suresh Kumar Dr. K.R. Ashok	Analysis on properties of Kumbakonam betelvine (leaf) was done from FQTL, TNAU. Draft Project report on Kumbakonam betelvine completed. Revised GI application & Statement of Case on Kumbakonam betelvine	Registration of GI for Kumbakonam Vetrilai. Project Report Completion for Kumbakonam Vetrilai.

				was completed and sent to the IP Attorney. Reply for Formality Check report was prepared and sent to the IP Attorney.	
2.	**CARDS/KDM/AEC/SOCIAL SCI/ 2023/197** Performance of Maize production system in major producing states in India-An economic analysis of shifting Cropping system	July 2023-Jun 2025	Dr. K.R. Karunakaran	Collected the Secondary data on area, production, yield, MSP, and wholesale price for maize for different states. Categorized the different states based on maize production efficiency. Collected the plot level cost of cultivation data for maize and other cereals with paddy to study the comparative economics.	Identification of different maize production strategies for different states for sustainable and efficient maize production. Policy strategies on intensification or expansion of maize production will be suggested.
3.	**CARDS/YTR/AEC/SOCIAL SCI./2024/017** Impact Assessment of Castor YRCH 1 Cultivation in Salem District.	Feb 2024-Jan 2025	Dr. S. Angles	Collection of secondary data on castor production in Salem District. Prepared questionnaire to assess status of on castor production in Salem District among the farmers and conducted Pilot survey	Comparative economics of castor crop and its competing crops (Groundnut and Rice) will be done. Detailed Impact analysis for YRCH 1 Castor in terms of income, employment and sustainability will be carried out.

				for finalization of questionnaire. Identification of sample on Castor producers is under progress.	
4.	**CARDS/ KKM/AEC/SOCIAL SCI./2023/ 281** A study on spatial and temporal variation in price and arrivals of major vegetables of farmer's market in Tamil Nadu.	Nov 2023-Oct 2024	Dr. T. Elenchezhian	Collected the secondary data on prices (monthly, seasonal and annual prices) and arrivals of major vegetables in different districts. Completed the Time series on demand and supply projections and basis statistical analyses.	Understanding the price trends and fluctuations: Analysis of the temporal (seasonal or monthly) price trends of major vegetables, identifying periods of high and low prices. Analysing market dynamics i.e. identification of factors causing price fluctuations, such as seasonality, climate variability, transportation challenges, or changes in demand. Analysis of how these spatial and temporal variations in prices and market arrivals affect farmers' income and profitability in different regions.

C. Details of research projects

A total of 17 projects were reviewed. Out of which two externally funded projects and three University Research projects were completed, and five university research projects and seven externally funded projects are ongoing in the Department of Agricultural Economics.

II. CURRENT STATUS OF RESEARCH PROJECTS

Campus	University sub projects		Externally funded projects		Total	
	Completed	Ongoing	Completed	Ongoing	Completed	Ongoing
Coimbatore	1	1	2	4	3	5
Madurai	1	..	..	1	1	1
Trichy	..	1	..	..	..	1
Killikulam	..	1	..	..	..	1
Periyakulam	..	..	..	..	..	..
Echangottai	..	..	..	..	..	..
Mettupalayam	..	..	..	2	..	2
Vazhavachanur	1	..	..	..	1	..
Kudumiyanmalai	..	1	..	..	..	1
Yethapur	..	1	..	..	..	1
Chettinad	..	..	..	..	..	..
KVK, Ramnad	..	..	..	..	..	..
RRS, Tirur	..	..	..	..	..	..
TOTAL	**3**	**5**	**2**	**7**	**5**	**12**

NEW PROJECTS PROPOSED DURING 2023-24

Campus	University sub projects		Externally funded projects		Total	
	Completed	Ongoing	Completed	Ongoing	Completed	Ongoing
Coimbatore	1	1	13	2	14	3
Madurai	..	..	5	1	5	1
Trichy	4	1	1	..	5	1
Killikulam	1	1	..	..	1	1
Periyakulam	..	..	..	..	..	..
Echangottai	..	..	..	..	..	..
Mettupalayam	-	..	7	2	7	2
Vazhavachanur	..	..	..	..	..	..
Kudumiyanmalai	1	1	..	..	1	1
Yethapur	1	1	..	..	1	1
Chettinad	..	..	..	..	..	..
KVK, Ramnad	..	..	..	..	..	..
RRS, Tirur	..	..	..	..	..	..
TOTAL	**8**	**5**	**26**	**5**	**34**	**10**

D. Remarks of the ongoing projects

S. No.	Project Number	Project Period	Project Leader (PI/Co-PI)	Remarks
a.	**Externally funded Projects**			
1.	GOI/CARDS/CBE/AEC/1970/R001 Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in Tamil Nadu.	Continuous Scheme Since 1970	Dr. S. Senthilnathan Dr. V. Karthick	The project may be continued.
2.	CARDS-ICSSR/CBE/AEC/2022/R001 Ecosystem for Transition to Cashless Agrarian Economy in Tamil Nadu: Challenges and Implications.	March-2022 to Feb - 2024	Dr. A. Vidhyavathi Dr. S. Padma Rani Dr. P. Balaji	The project may be closed.
3.	ICSSR/CARDS/CBE/AEX/2023/R001 Impact of PM-KISAN scheme on farm income and agricultural technology adoption in South India.	Sept 2023-Dec 2024	Dr. V.S aravanakumar, Dr. K. Nirmal Ravi Kumar, Dr. K. B. Vedamurthy, Dr. M. Umanath, Dr. M. Chandrakumar, Dr. K. Harishankar, Dr. R. Paramasivam	The project may be continued.
4.	APEDA / CARDS / CBE / AEC / 2023/ R002 Supply Chain Management of Fruits and Vegetable Processing Industry in Tamil Nadu.	Jan 2023-June 2024	Dr. M. Thilagavathi, Dr. C. Indu Rani	The project may be continued.
5.	ICSSR – RMM-2023-601- Impact Assessment Study of Farmer Producers Organizations on Livelihood of Farmers in Tamil Nadu.	Jan 2024-Mar 2025	Dr. A. Malaisamy (P&H)	The project may be continued.
6.	TNFD – TBGPTCR/FC&RI/MTP/2024/R002 Baseline Survey on Climate Change Impact in Manavadi Village, Karur Dt of Tamil Nadu.	Mar 2024-Aug 2024	Dr S. Varadha Raj Mettupalayam Dr A. Balasubramanian	The project may be continued.
7.	Not yet to be allotted Regulated timber and NTFPS markets in Tamil Nadu.	Jan 2024-Jun 2024	Dr. S. Varadha Raj Dr A. Balasubramanian Dr S. Hemalatha	The project may be continued.
b.	**University Research Projects**			

1.	IPMC – FMC CARDS/CBE/AEC/2021/ R025 Documentation of Select Agricultural Commodities for GI Registration in Tamil Nadu.	Dec-2021 to Nov-2024	Dr. M. Anjugam Dr. N. Kiruthika Dr. D. Suresh Kumar Dr.K.R.Ashok	The project may be continued
2.	CARDS/KDM/AEC/SOCIAL SCI/ 2023/197 Performance of Maize production system in major producing states in India – An Economic analysis of shifting Cropping system	July 2023-Jun 2025	Dr. K.R. Karunakaran	The project may be continued.
3	CARDS/YTR/AEC/SOCIAL SCI./2024/017 Impact Assessment of Castor YRCH 1 Cultivation in Salem District	Feb 2024-Jan 2025	Dr. S. Angles	The project may be continued.
4	CARDS/ KKM/AEC/SOCIAL SCI./2023/ 281 A study on spatial and temporal variation in price and arrivals of major vegetables of farmer's market in Tamil Nadu	Nov 2023-Oct 2024	Dr. T. Elenchezhian	The project may be continued.
5.	CARDS/ TRY/AEC/SOCIAL SCI./2023/ 168 An Economic Analysis of Export Performance of fruits and Vegetables from India	May 2023-April 2024	Dr. Salvadi Easwaran	The project may be closed.

III. Department of Agricultural Extension and Rural Sociology

A. Key Findings of Completed Projects

a. Externally Funded Projects

1.	**SPC/CARDS/CBE /AEX/2020/R005. Enhancing the livelihoods of Tribal –Women through community/village-based bio-enterprises at Kodaikanal Block, Dindigul District**
	(Dr. P. Balasubramaniam, Dr. C. Gopala Krishanan, Dr. P. Balaji)

Salient Findings

- To impart training on bio-fungicides production technologies and to motivate tribal women to start community village-based bio-enterprises for self-employment, three villages were selected at random from each panchayat and totally sixty tribal women have been selected based on their knowledge, enthusiasm and various skills in bio-control agents' production activities. The selected panchayats are Thandikudi and Pannakadu, Kodaikanal Block, Dindigul District. The selected tribal women were provided with specialized training on bio-fungicides production and for establishing community and village-based bio- fungicides production centers.

- Regarding profile of the respondents, nearly two-third of the respondents (63.34%) falls under the young age category, which includes individuals up to 35 years old, followed by 36.66 % of the respondents were under middle age category encompassing individuals between 36 and 55 years. The result implies that the production of *Trichoderma viride* is particularly popular or accessible to younger individuals.

- Majority of respondents (75.00%) have completed middle level of education followed by 13.34 % that have attained secondary level of education and 11.66 % had higher secondary level as their educational status. Regarding material possession, cent % of respondents had LPG connection in their home which indicating LPG is the primary cooking fuel. Cent % of respondents were agricultural wage earning as their occupational status. The result implies that tribal women in these areas are going for works in the coffee plantations.

- More than fifty percent (58.34) falls under the favorable category and suggesting a moderate inclination towards engaging in group activities. More than 56.66 % of the respondent's falls into the low income category, indicating an income up to Rs. 80,000 annually.

Perceived impact of *Trichoderma viride* production under SADP project

- Majority of respondents (83.33%) agree that an increase in income due to the model bio-fungicide production centre provides a reliable source of revenue to

tribal women. This suggests a strong consensus among the majority as direct impact and that increases income for tribal women.

- The improved skills in the production of *Trichoderma viride* has agreed by 91.66 % of respondents. Conversely, opinions on the statement Success of *Trichoderma viride* production builds self-esteem and a sense of accomplishment are reported by two-third of the respondents agreed (66.66%) and quoted as personal impact.

- The perceived social impact indicates the participation in social programmes agreed by majority of respondents (81.66%). Increase in group cohesiveness and builds supportive network within the community were agreed by majority of the respondents (70.00%).

- The economic impact was categorized into Investment in savings, Construction/Renovation of houses, increase in purchase of essential household materials, Investment in livelihood diversification activities (Purchase of poultry & Milch animals) and increase in self-confidence & entrepreneurial abilities. Majority agree on Investment in savings (83.33%) and Construction/Renovation of houses (83.33%). For Increase in purchase of essential household materials, there is a divided with 68.33 % agreed.

- Constraints faced by respondents are difficulty in media preparation, lack of skills in culture maintenance leads contamination and poor awareness on marketing facilities. Suggestions to overcome constraints are organizing regular skill-oriented training programme and provision of financial assistance from banks for production under sustainable venture.

2.	**Proc. No. DR/P2/ASO/TN IAMP/WTC/2020. "M-*Velanmai*"**
	(Dr. C. Karthikeyan, Dr. S. Pazhanivelan, Dr. S. Nakkeeran, Dr. B. Vinothkumar, Dr. D. Vijayalakshmi, Dr. Saravanakumar, Dr. Ga. Dheebakaran)

- Identification of appropriate platform for the development of AI-based Android applications was done by testing various platforms such as Android studio, Flutter, Java, Python, and Dart programming for improving the AI inference.
- After many trials, it was found that Flutter with Dart programming, Python programming and Firebase is suitable for building an AI-based Android mobile app. "M-*Velanmai*".
- It is found that M-*Velanmai* app is useful for accessing technical recommendations instantly by farmers to solve the major pest and disease infestation symptoms that appear in Paddy crops in Tamil Nadu.
- Nearly 5,000 farmers had downloaded the M-*velanmai* application from Play store for accessing technical recommendations.

- M-*Velanmai* app. has been released as a product by University Variety and Technology Release Screening Committee (UVTRSC) TNAU during 2024 (Proc. No.DR/P2/TNAU/UVTRSC 2024/ Tech. & Implements/ Proceedings/ 2024 Dated: 01.04.2024).

3.	**SDPC/DCM/CBE/SOA/2021/001. Income generation and livelihood security of marginal and small farmers of Theni District through sustainable organic agriculture**
	(Dr. R. Krishnan, Dr. R. Jansirani)

Activities

- 270 farmers were given skill training on organic input preparation of *panchagavya*, *jeevamrutham*, herbal leaves extract, seed treatment with biofertilizers, 3G extract, egg amino acid and vermicompost
- Sensitized the beneficiaries on organic certification.

Policy implications:

- Emphasis should be given on skill training on organic farming.
- Organic certification at free of cost may be encouraged.

4.	**DoEE/ICAR/KVK-VRI/NABARD FSPF Project (Drone)/2022. Empowering Farmers through Drone System for Precision Agriculture in Cuddalore District**
	(Dr. N. Sriram, Dr. S. Maruthasalam, Dr. R. Baskaran, Dr. K. Natarajan, Dr. K. Bharathikumar, Dr. K. Sundaraiya, Dr. G. Gayathry)

- The majority of respondents were middle-aged (67.30%), had high school education (49.00%), and agriculture as their main occupation (82.00%). They had high farming experience (71.33%), medium farm size (35.50%), and annual income (61.00%). Most had awareness of drone spraying for pesticides (92.00%) and nutrients (91.00%), but 80.00% had low to medium knowledge.
- 61.33% felt drones were easy to use, and 49.34% saw cost savings in fertilizer and pesticide application.
- Many found drones compatible (41.67%) and safe (44.67%), with 81.00% intending to use them next year. Most had a positive attitude towards drones, especially for increasing crop yields and reducing costs.
- Farmers noted reduced chemical costs (90.00%), nutrient deficiency (79.00%), and pest incidence (77.00%) with drone use.
- The BCR was 2.31, with 77.00% reporting financial benefits. Key challenges were drone repair and proper chemical use (91.00%), and 93.00% suggested drone hiring centers with subsidies for small farmers.

5.	**DoEE/KVK-VRI/NABARD/2021/22. Climate Resilient Integrated Wet Land Farming System (IFS) to Minimize Risk in Farming and to Accelerate the Farmers' Income of Cuddalore District**
	(Dr. N. Sriram, Dr. R. Baskaran, Dr. K. Natarajan, Dr. K. Sundaraiya, Dr. K. Bharathikumar, Dr. S. Maruthasalam, Dr. G. Gayathry)

- Around 66.67 % of the IFS farmers had high level of knowledge about IFS technologies and 48.00 % of the Non-IFS farmers had medium level of knowledge about IFS technologies.
- Most IFS farmers were middle-aged (47.30%), with high school education (37.00%) and agriculture as their main occupation (71.00%). They had high farming experience (67.35%), medium farm size (31.50%), and good knowledge of IFS technologies (66.67%).
- 40.00% practiced diverse IFS components (as Paddy + Fish + Poultry + Vermicompost + Dairy + Sheep + Ducks + Honey Bee + Vegetables), while 80.00% believed IFS reduces crop failure risk, maximizes land use, and provides more benefits. IFS farmers had higher income (BCR 2.61-2.82) than non-IFS farmers (BCR 1.91-2.28).
- Key constraints were labor shortages and high costs, with 94.00% suggesting timely provision of quality inputs.

Policy implications

- Govt may introduce comprehensive IFS programme with 100 % subsidy for increasing adoption rate of IFS in all the farmers field for minimizing risk in agricultural profession.
- KVK or Agricultural institutions may organize skill training on IFS for developing a more number of skill IFS labourers for effective management of IFS units at farmers field.
- KVK or Agricultural Department or Animal Husbandry or Fishery Department may ensure timely availability of quality seeds / inputs / animal / fishery components for effective adoption of IFS technologies at farmers field.

6.	**ICSSR/VVNR/SOC/2022/R001. Impact of Climate Change on the Ecosystem and the Life of the Tribal Communities**
	(Dr. R. Arunachalam, Dr. S. Nazreen Hassan, Dr. C. Cinthia Fernandaz, Dr. M.A. Vennila, Dr. V. Sendhilvel)

Salient Findings

- The findings on the pattern of climate change showed remarkable variations in the climatic factors in the tribal localities
- With regard to climate-based issues, there were 48 livelihood issues, 37 ecosystem-based issues, and 27 socio-cultural issues identified.
- The tribal respondents were seen with medium level of awareness and medium to low level of perception on the documented issues.

- The tribal respondents incurred a loss up to 30.00 % in farming, livestock management & working as farm laborers. Nursery management and forest collections (firewood, tree bark, medicinal plants, grass for broomstick, wild edible fruits and vegetables *etc*.) were their local prime business activities.
- The reported income loss due to climatic factors are up to 30.00 %.
- The respondents earned a substantial income by working in the nearby construction sites. The income loss due to the unfavourable climatic change are ranging from 30.00 - 60.00 %. The reported income loss from honey collection due to unfavourable climatic conditions are ranging from 20.00 - 60.00 %.

Policy Implications:

- Government intervention is needed to simplify forest product collection, rejuvenate endangered resources, and set fixed prices for the produces.
- Training on modern farming, animal health, and value addition for forest products should be provided.
- Restoring water resources and promoting local self-employment projects will help sustain livelihoods and reduce migration.
- Climate change impacts health, productivity, and crops, requiring targeted support and training. Interest-free or low-interest loans should be offered to boost local livelihood ventures.

7.	**DoEE/TNAU-KVK/Scheme/FC/NABARD/22-23/02. Augmenting the Livelihood of Cauvery Delta Farmers through Demonstration of Paddy cum Fish Culture**
	(Dr. M. Ramasubramanian, Dr. V. Radhakrishnan)

- Preliminary analysis of data collected on willingness of farmers to adopt the paddy cum fish culture model through binary Logistic Regression model revealed that if the farmers are influenced by the variables of quantum of water availability during samba season, institutional support of KVK and orientation towards chemical free farming their odds of willing to adopt paddy cum fish culture model would improve by a factor of 3.26, 2.15 and 1.12 units respectively.
- The qualitative data collected from the Focus Group discussion held among farmers and the thematic analysis revealed four redundant themes which were Additional income, Traditional paddy cultivation, Effective space utilization and chemical free farming.

The following initiatives would strengthen the sustainability of this model:

- The KVKs in the Cauvery delta region, during their training programmes on rice may highlight the importance of possibility of bringing this model.
- The Line departments in Cauvery Delta districts may be sensitized about this model and in ATMA Exposure visits, the farmers may be taken to KVK, Thiruvarur to get themselves convinced to adopt the model.

8.	**ICSSR/DCM/CBE/NOFRC/2023/R001. A Multidimensional Study on Impact of Pradhan Mantri Kisan Samman Nidhi Programme (PM-KISAN) on the Livelihood of Farmers of Southern States of India**
	(Dr. M. Ramasubramanian, Dr. Purushothaman Venkatesan, Dr. B. Shanmugasundaram, Dr. S. Subash, Dr. Sailaja Venna, Dr. M. Jegadeesan, Dr. M. Kavino and Dr. E. Parameswari)

- The PM KISAN scheme significantly impacted agriculture spending (92.50%), cropping intensity (82.50%), animal husbandry and fisheries (58.00%), and income (68.50%), differentiating beneficiaries from non-beneficiaries. Increased spending was also reported on household needs like groceries (88.00%), education (65.60%), and health (58.50%).
- Beneficiaries spent more on seeds (92.50%), fertilizers (95.75%), and plant protection (88.90%). About 75.40% used the money for hiring machinery, and adoption of soil enrichment technologies (48.00%) and crop management practices (49.00%) was notable, especially near KVKs and research stations.
- Karnataka led in agriculture spending, followed by Kerala and Andhra Pradesh. Karnataka also topped in animal husbandry spending, while Tamil Nadu led in technology adoption, thanks to strong extension networks. The average spending increase ranged from 18-25%, with Karnataka and Tamil Nadu showing the highest growth.
- Logistic regression revealed farm size and urgent agricultural needs as key factors for investment willingness. Beneficiaries suggested increasing the grant, converting schemes to DBT, and timely releases. Repeated measures ANOVA showed a 12.5-27.5% annual increase in PM KISAN's impact.

Output Indicators Average across states	**Outcome Indicators Average across states**
12 % increased income	13-15 % increased adoption rate of improved Agricultural Technologies
30-40 % increased spending on Agriculture and Animal husbandry	Improved Institutional Access – Access to KVKs and research stations
42 % increased cropping intensity	Improved Livelihood among the respondents
4 % increased household spending	2-3 % reduction in Migration
3% increased education spending	Improved social status, recognition

Policy recommendations:

1. Increase the PM KISAN grant to at least ₹10,000 to meet farmers' needs better.
2. Develop a policy to include tenant farmers who are currently excluded. Update the land registration cut-off to allow those with titles after 01.02.2019 to qualify.
3. Provide training for PM KISAN beneficiaries on low-cost farming techniques. Organize field schools for hands-on sessions promoting environmentally friendly agriculture.

4. Offer additional financial assistance of ₹5,000 to beneficiaries practicing organic farming.
5. Document and share successful PM KISAN cases to inspire other farmers.
6. Recognize effective fund utilization with district and national awards.
7. Conduct quarterly workshops to engage stakeholders and educate farmers about the PM KISAN portal.

9.	**ICSSR/ABD/CBE/AEX/2023/R001. Impact of Jal Sinchan (Micro Irrigation) on the Cropping pattern, Water Use Efficiency, Income and Livelihood of Farmers: A case study in select areas of Tamil Nadu**
	(Dr. M. Shantha Sheela, Dr. N. Sriram, Dr. N. Anandaraja, Dr. S. Nazreen Hassan, Dr. Kalaiselvi Senthil and Dr. J. Arthi)

- Micro irrigation has been identified as an innovative water demand management strategy to manage scarce water resources in agriculture, with the following measurable benefits in terms of savings of water, labour, fertilizer and input usage increased yields and income.
- Awareness Generation across Tamil Nadu state, about the details available in the MIMIS web portal.
- Functionality and maintenance of micro irrigation systems, for instance, technical awareness of fertigation, fertigation schedule to different crops and acid treatment, *etc.,* remained as an information gap. This needs to be bridged, and a monitoring mechanism has to be implemented in place that can actually oversee whether the farmer has actually understood the process and is able to regularly undertake recommended maintenance practices in the frequency required.
- Farmers need to be made aware of the benefits of micro irrigation in plantation and perennial crops.
- In the case of open and tube well irrigated farmers already, using drip irrigation system and these are designed to suit those areas. However, in canal and tank irrigated area technology suit be developed to suit those areas. Thus, in this case, the farmers need to be informed about the field capacity, water holding capacity, *etc*. and be encouraged to undertake micro irrigation.
- In a detailed examination of micro-irrigation distribution across various districts in Tamil Nadu, a discernible pattern of disparity in beneficiary numbers emerges. The districts highly dependent on ground water had maximum number of beneficiaries. Thiruvannamalai Dharmapuri, Salem, Krishnagiri, Villupuram districts, had more number of beneficiaries. The districts combined with both canal and ground water sources for irrigation have less number of beneficiaries. However, the districts like Dindigul, Ariyalur, Kallakurichi, Karur, Perambalur, Tiruppathur and Vellore even though depends only on ground water the PMKSY micro irrigation beneficiaries are less. Variation in irrigation sources need region specific beneficiary selection and specific strategies for implementing micro irrigation.

10.	**WVC/CPPS/CBE/2022/R001** **Integrated Pest Management (IPM) practices for Tomato and Lablab Bean**
	(Dr. P.P. Murugan and Dr. N. Anandaraja)

- Establishment of field plot
- Conducted Eight Farmer's Field Day
- Capacity Building and Training
- Popularization of Technologies through TNAU Social Media
- Evaluated through Socio-economic Survey

Social media exposure:

- Among the social media, WhatsApp (90.24 %), *Uzhavan* app (82.93 %), YouTube (77.07 %) and Twitter (53.66 %) were aware by the majority of the farmers.
- About usage of social media, WhatsApp was used by 82.44 % of the farmers followed by YouTube (47.32 %) and *Uzhavan* app (36.59 %). The other social media like Facebook, Instagram, and the TNAU agri-tech portal were aware by less number of farmers.
- With regard to constraints, attentive listening is a barrier with the large number of farmers (73.00) in Coimbatore district, and changes in weather and climatic factors affects the demonstration trial majorly drought (60.00) in Dharmapuri district.

Policy Implications:

- The farmers need continuous training related to IPM technologies and regular visits of the farm by field staff help to improve the technology adoption.
- More number of demo fields and follow-up of KVKs / Dept. field functionaries.
- Quality inputs and timely materials related to IPM by Govt. depots.
- Provision of grafted seedlings at a subsidized rate.

b. University Research Projects

1.	**CARDS/KKM/AEX/2021/001** **Perception and Constraints on Integrated Farming Methods in Thoothukudi district**
	(Dr. T. Dhamodaran and Dr. G. Kumar)

- It could be observed that 50.00 % of the farmers practicing goat rearing and poultry activities in addition to crop cultivation followed by animal husbandry (dairy +goat) with backyard poultry (28 %) and animal husbandry (dairy + goat) + kitchen garden and backyard poultry (22 %).
- About 97 % of the farmers perceived that IFM produces diversified products and increases the diversified income followed by IFM effectively utilizing the available local resources (95 %), IFM employing family members around the Year (93 %),

IFM helping rural people to conserve their own resources to meet their day to day requirements (92 %).

- IFM increased the returns from farming (91 %) and ensured food and nutritional security of farm families (90 %) which helps to achieve optimum production level through integration (83 %) promotes live fencing and minimizes the fodder shortage (81 %).
- IFM reduces the vulnerability of farmers in adverse conditions. 78.00 % of the farmers felt that it reduces the fertilizer requirement by utilizing the manure and organic waste.

2.	**CARDS/ KVK/ KANY/SS/2022/001** **Livelihood assessment of rural youth through Krishi Vigyan Kendra interventions in Kanyakumari district**
	(Dr. S. Nazreen Hasan)

Agriculture and Value Addition (Banana and Coconut):

- A majority of rural youth (77.5 %) who have undergone trainings at KVK were able to create enterprises in Agriculture and value addition.
- Employment generation: 100 – 200-man days (8 hrs/day) was given in Agriculture and value addition (40 %). More than 200-man days was given by 20 % of the respondents.
- Increase in income was notified by 10% of youth in Agriculture and value addition enterprise.
- Support through interventions like trainings, demonstrations, exposure visits and input support were expressed by 100 % of the rural youth. Lack of confidence on starting new enterprise was given by 12.5 % of youth in Agriculture and value addition enterprises. Majority of respondents needed information on new technologies (47.5 %).

Allied enterprises:

- A majority of 27.5 % showed employment generation of 50–100-man days in allied activities. 7.5 % showed more than 200-man days of employment.
- A majority of rural youth (87.5 %) who have undergone trainings at KVK were able to create enterprises in allied activities.
- Increase in income was notified by 7.5 % of youth in allied enterprises.
- Support through interventions like trainings, demonstrations, exposure visits and input support were expressed by 100% of the rural youth.

3.	**CARDS/CBE/AERS/NON/2022/001. Entrepreneurial attitude among postgraduate students of TNAU-An Analysis**
	(Dr. S.R. Padma)

- Fifty-three percent were unsure about entrepreneurship and wanted to be leaders, while 50% identified as risk-takers.
- Additionally, 45% aspired to prestigious positions, and 35% believed entrepreneurship can't be taught.
- 58% had strong organizational skills, and 55% felt entrepreneurs need managerial and financial skills.
- Furthermore, 50% recognized that entrepreneurs take risks to create jobs, and 60% viewed them as problem solvers and knowledge seekers.

Policy Implications:

- Educating students on the process of registering a business or new venture.
- Imparting business plan writing skills.
- Directing student associations on entrepreneurship.
- Developing students' entrepreneurial ideas and focusing on professional orientation.
- Designing university curricula based on job market demands.
- Designing appropriate content of education based on students mental and skill capabilities.

4.	**CARDS/ MDU/AE&RS/ NON / 2022 / 001. Effectiveness of e-learning on cognitive and affective domain of students in Agricultural colleges**
	(Dr. Mahandra Kumar and Dr. P. Prema)

- In the realm of cognitive domain, in the sphere of Information Management, acquiring Information utilization of multiple sources of information than the textbook either from library or from internet had happened among 15 to 20 % of respondents.
- In the of knowledge construction understanding the content, reflection on understanding and finding answer through discussion was found among 15 to10 % of the respondents.
- Contrarily, nearly 90 to 95 % of respondents reported that applying the acquired knowledge in practice and raising question about it found to be low.
- E learning did not inculcate the ability to solve the problem like keeping calm or dealing the complex problems was reported by more than 95 % of respondents.
- In the affective domain of the self-identity, self-value, self-directness, self-accountability the e learning has less influence was reported by 82 to 85 % of respondents.
- More than 95 % of respondents revealed that the sphere of social domain was distorted in the area of Social Participation, Social Receptivity, Socialization and Social Fulfillment in E learning.

- Nearly 30 % of Students have witnessed that Online teaching has enhanced their capability to search the other available teaching material on the internet *etc*., (29.4), followed by improved their computer skills (27.4 %) decreased their nervousness of physical presence of a teacher in the classroom (25.4) and learning independently (25 %) and reduces their fear in asking the questions as compared to the physical presence in the classroom (16.5).

Policy Implications:

- Though the teaching-learning situation is sufficient to impart e-learning in synchronized mode, it was not found to be effective as that of classroom learning and was not preferred by the students.
- Initially a synchronized mode of e-learning may be encouraged for noncredit compulsory courses and slowly switching over to other credit courses may help to students to transform to online mode.

5.	**CARDS/ MDU/ EXTN/ SOC I 2022 I OOL.** **Impact analysis on Pradhan Mantri Fasal Bima Yojana in Madurai District**
	(Dr. K. Ramakrishnan)

- The profile of PMFBY beneficiaries revealed that the majority of the beneficiaries were middle-aged with the educational level of middle school. Majority of the beneficiaries had more than 4 hectares of land holdings and 21 to 30 years of farming experience respectively. Majority of the beneficiaries had medium level of annual income, material possession, extension contact agency, innovativeness, economic motivation and mass media exposure. Majority of the beneficiaries had attended only one training. The bulk of the beneficiaries had a high level of social involvement.

- Majority of beneficiaries sought information about PMFBY via service cooperatives, gramin banks, friends and local leaders. Majority of beneficiaries had experienced disasters such as droughts, cyclones and heat waves on a regular basis and the disaster pattern occurrence was medium. The majority of the beneficiaries had borrowed loans from regional banks. Majority of the beneficiaries were aware of the premium rates, the basis for PMFBY execution, eligibility for accepting loans, intimation of crop losses within a specific time frame, reason for PMFBY failure, year of introduction, categories of risks covered and the principal goal of PMFBY. Majority of farmers had medium level of adoption about PMFBY.

- Majority of the beneficiaries (44 %) had low level of awareness about PMFBY followed by medium and high levels with 36 % and 20 % respectively.

- Majority of the PMFBY beneficiaries (81.70 %) were had medium level of adoption followed by nearly less than one-sixth of the total beneficiaries (15.80 %) were possess low adoption and meagre % (2.50 %) of the beneficiaries were had high level of adoption rate.

- Majority of the beneficiaries' preferred to satisfy the bank procedures in availing credit to the join the PMFBY. The second motivational factor was to avoid the production risk in farming the above two factors were given the first and second ranks they got 91.12 and 85.19 scores.
- Lack of awareness on crop insurance products and components emerged as the major constraint as expressed by 62.00 % of the respondents. More than half (53 %) expressed the complex procedures in the crop insurance scheme. Area approach does not address the problem of micro level calamities was the constraint of 52.00 % of the respondents.
- More than two-thirds of the sample stated that campaign to increase mass awareness of the farmers (69 %) and providing full subsidy in the premium rate for all cultivated crops (68 %). The Agricultural insurance company staffs have to be established continued contacts of farmers (64 %). More than half of them (63 %) were expressed to reduce the complex procedures involved in this scheme.

Policy Implications:

- Training may be conducted by the extension officials of the State Department of Agriculture.
- Government interventions is needed to rectify the problems identified through this project.

6.	**CARDS/KKM/AEX/2021/002** **Study the "Social and Economic Impact of Pandemic COVID - 19 on the livelihood of Farming Community" in Tirunelveli District**
	(Dr. R. Rajasekaran)

Profile of the farmers:

- Majority of the respondents were male (75 %) and fall under old age group (40 %) with primary and middle school education (28.33 %).
- Majority (51.67 %) of the respondents were marginal farmers were having low level of farming experience (48.33 %).
- Majority (63.33 %) of the respondents were under joint family category and small family size (36.67 %).

Issues faced by the farmers:

- 100 % of the respondents agree with the statement that farmer should cultivate more number of crops to avoid greater risk.
- 40 % of the respondents agreed to take more of risk in earning a big profit.
- 49 % of the respondents willing to take greater risks than the average farmer usually achieves better economic condition.
- 100 % of the respondents agree with the statement that taking risk is good for farmers which lead to the chance of success.

- Majority (38.33 %) of the respondents were under the Farming + Animal husbandry as their occupation.
- Majority (93.33 %) of the respondents were under the medium level of annual income.
- Majority (73.33 %) of the respondents were under the red calcareous type of soil with well irrigation (58.33 %).
- Majority (43.33 %) of the respondents were having medium level of farm tool, implements and machinery possessed and used.
- 100 % of the respondents agree with the statement that farmer should cultivate more number of crops to avoid greater risk.
- 100 % of the respondents agree with the statement that he/she should not try new technology unless most farmers have used it with success.
- 100 % of the respondents are following the government current advice and guidelines regarding COVID-19.
- 100 % of the respondents are not satisfied with their life on these days.
- Majority (54 %) of the respondents are felt downhearted (or) depressed during the past one year.
- Majority (40 %) of the respondents faced problem regarding their financial obligations due to COVID restriction.
- 100 % of the respondents income and job got reduced due to COVID-19.
- 100 % of the respondents felt anxiety of fall ill/ death due to COVID-19.
- Majority (65 %) of the respondents lost their family members/friends due to COVID-19.
- Majority (73.33 %) of the respondents intake of balanced diet were changed due to COVID 19.
- Majority (86.67 %) of the respondents faced physiological disorder like stress related /sleep disorder due to COVID-19.
- Majority (71.67 %) of the respondents are not able to continue their medical treatment due to COVID restriction.
- Majority (73.33 %) of the respondents social participation got reduced due to COVID-19.
- 100 % of the respondents personal plans has been affected by the restrictions.
- Majority (93.33 %) of the respondents are currently not have any insurance coverage.
- 100 % of the respondents didn’t expect corona virus to impact in their farming.

- Majority (71.67 %) of the respondents farming operation currently observed losses and in revenue (98.33 %).
- 100 % of the respondents experiencing labour shortage and experiencing input unavailability.
- 100 % of the respondents are facing difficulties in marketing their produce and trade restrictions in buying and selling.
- Majority (98.33 %) of the respondent are facing problem related to processing of farm produce.
- 100 % of the respondents are facing storage problem due to the closure of APMC and other markets and reduced demand for their products, including the loss of demand from restaurants, farmer market closure and consumer habits.
- Majority (98.33 %) of the respondent experienced an increase in demand for local (or) organic food during lockdown.
- 100 % of the respondents want institutional help in farming operation and felt unable to get hired machinery/ loans.
- Majority (61.67 %) of the respondents got government subsidies during COVID pandemic.
- Agriculture labourers were unable to go to work due to lack of transport.
- Formation of farmers group and eliminating intermediaries to increase the efficiency of marketing and encouraging farmers group for direct selling of the produces to the consumers so as to farmer get direct benefit.
- Keep domestic, regional and international markets open exclusively for agricultural produces and market transparency by proving timely market information to the farmers group.

Suggestive measures:

- Provision of common warehouse at district level, special ID card/pass for the transportation of produce may be suggested.
- Labour work under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) may not be stopped.
- Increasing allocation for direct transfers to farmers through PM Kisan.
- Farmers need continuous market access with transparency.
- There can be a combination of the private and government procurement sectors.

A. Action Plan (2024-25)

S. No.	Project Number Project Title	Project Period	Project Leader (PI/Co-PI)	Activities	Deliverables/ Expected outcome
a.	**Externally funded Projects**				
1.	CDIL/CARDS/CBE/AERS/2021/R005 Neem Based Bio-Pesticides in Crop Cultivation and Assessment of Its Impact and Future Potential.	1.10.2021-30.4.2024	PI: Dr. P. Balasubramaniam Co-PIs: Dr. S. Manickam Dr. P.S. Shanmugam Dr. R. Parimalrangan	Selection of districts, blocks, villages and beneficiaries Training and demonstrations conducted on neem-based bio-pesticides and its application at Dharmapuri, Krishnagiri, Thirupattur and Salem Districts.	Completion of report and publication of policy brief and policy document.
2.	RDO/DEE/KVK/OTY/2024/r001 Promotion of Resilient Agriculture Practices among the Small and Marginal Farmers Through cluster approach in The Nilgris.	Jan 2023 - Dec 2026	Dr. C. Cinthia Fernandaz Dr. S.P. Thamaraiselvi Dr. S. Manivasakan CO-PI Dr. P. Raja Dr. B. Vinoth Kumar Dr. R.M. Jayabalakrishnan Dr. M. Vijayakumar Dr. L. Rajendran Dr. V. Karthick	Data entry and data checking. Analysis of data and report writing.	Completion of report and publication of policy brief and policy document.
3.	JSPS/ACRI/KDM/DSS/2020/R002 Long Term Tank Performance and Institutional Effect of Irrigation Tank Management in Tamil Nadu.	1.3.2020 to 31.3.2024	PI: Dr. M. Jegadeesan Co-PIs: Dr. T. Rajendran Dr. S.R. Padma	Masinagudi Cluster- Baseline data collection of the farmers completed. Major crops- Ragi, Thenai, Vegetables	Completion of report and publication of policy brief and policy document.

4.	ICSSR/CARDS/CBE/AE&RS/2024/R001 Pesticide Usage Behaviour of Vegetable Farmers and its Impact on Soil and Human health.	April 2024-Mar 2026	Dr. A. Janaki Rani	Collection of Secondary data is in progress and yet to be initiated.	Complete the data collection.
5.	ICSSR/CARDS/CBE/AE&RS/2024/R002 Climate-Smart Agriculture: A Path to Food Security in Climate-Vulnerable Agro-Climatic Zones of Tamil Nadu.	April 2024-Mar 2026	Dr. R. Premavathi	Getting administrative sanction and appointing research personnel Collection of secondary data and available literature and analyze the trend of drought Selection of villages based on the drought index and fixing the samples and Construction of interview schedule.	Complete the data collection.
b.	**University Research Projects**				
1.	CARDS/MDU/AE&RS/HOR/2023/001 A Study on Pesticide handling and Health hazards in Vegetable Cultivation.	February 2023 to January 2025	Dr. R. Velusamy	Interview schedule is constructed. Survey was conducted with 60 input dealers in the districts namely Madurai, Theni and Dindigul. Data collection among input dealers were completed.	Completion of report and publication of policy brief and policy document.
2.	CARDS/OTY/AEX/ Social SCI./2023/148 Medicinal Plants cultivation under contract farming in the Nilgris-A feasibility Study.	April 2023-March 2025	Dr. C. Cinthia Fernandaz	The Nilgiris district of Tamil Nadu is selected for the study. A total of 120 informants both 60 from medicinal plant growers and 60 from non-growers were selected for collecting the data.	Completion of report and publication of policy brief and policy document.
3.	CARDs/TRY/AEX/ Social SCI./2023/190	Aug 2023-July 2025	Dr. S. Sangeetha	Collection of literatures related to the study	Completion of report and publication of

	A Study on technological gap in recommended Banana cultivation practices in Trichy district.			Selection of dependent and independent variables to study the profile characteristics, Knowledge and adoption level of the of Banana growers and to study the practice–wise technology gap in Banana cultivation Construction of interview schedule completed.	policy brief and policy document.
4.	CARDS/VRI/AEX/SOCAIL SCI./2023/159 Impact of Drone application in Agriculture on minimising labour drudgery and enhancing sustainable livelihoods through KVK Interventions".	April 2023 to March 2025	Dr. Noorjehan A.K.A. Hanif	Completed the survey of farmers Sorting of data collected and its analysis is in progress	Completion of report and publication of policy brief and policy document.
5.	CARDS/APK/AG.EXTN/SS/2023/144 Adoption of Millet cultivation technologies and Marketing channels in Virudhunagar and Madurai Districts.	April 2023 to March 2025	Dr. G. Selvarani	Collected Relevant Literature Secondary data collected Area Production and Productivity details of millets were collected from JDA, Madurai Dt. Area, Production and Productivity details of millets from JDA Virudhunagar district Interview schedule constructed. Pilot study was conducted among the farmers Data collection tool was finalised	Completion of report and publication of policy brief and policy document.

6.	CARDS/TRY/AEX/Social Sci./2023161 Impact Assessment of salt Tolerant TRY Rice varieties in Tamil Nadu State.	June 2023 to May 2025	Dr. A. Sakunthalai	Secondary data collection on seed distribution pattern Interview schedule preparation and pilot survey and rescheduling the Interview schedule.	Completion of report and publication of policy brief and policy document.
7.	CARDS/MTP/AEX/SOCIAL SCIENCE /2023/162 Study on Socio- Economic Potentials of Traditional Agroforestry vs Industrial Agroforestry systems in Coimbatore district.	July 2023 to June 2024	Dr. R. Jansirani	Data collected and analyzed.	Completion of report and publication of policy brief and policy document.
8.	CARDS/VNR/AEX/SOCIAL SCI./2023/160 A study on the Adoption of improved cultivation practices in little millet (Samai) among farmers in Tiruvannamalai district of Tamil Nadu.	June, 2023 to May, 2025	Dr. P. Sumathi	Survey work has been initiated in koviloor village of Jamunamarathur block among the millet grower Data collection is under progress.	Completion of Data analysis and project report
9.	CARDS/PPY/AEX/SOCAIL SCI./2024/029 An Analysis of Gender dynamics and its implications in Tamarind Value Chain in Dharmapuri district.	April 2024 to Sept. 2025	Dr. M.A. Vennila	Secondary data collection in progress.	Completion of Data analysis and project report
10.	TRRI/ TIR/ SOC/ 2022/001 Case Study on Performance of Farmers Producer Companies in Thiruvallur District.	July 2022 to June 2024	Dr. R. Agila	Details of FPO's in Tiruvallur District was collected.	Completion of Data analysis and project report
11.	CARDS / CBE / ABD /SS / 2022 /001 Performance Analysis of Coconut FPOs in Western Tamil Nadu.	Jan 2023 to March 2024	Dr. M. Shanthasheela	List of coconut FPOs collected Interview schedule prepared	Completion of Data analysis and project report

C. Details of research projects

A total of thirty-two projects being implemented in the Department of Agricultural Extension and Rural Sociology were reviewed. Out of which, ten externally funded project, and six university research projects were completed; eleven university sub-projects and five externally funded projects are ongoing in this department.

CURRENT STATUS OF THE RESEARCH PROJECT

Campus	Externally funded projects		University sub-projects		Total	
	Completed	Ongoing	Completed	Ongoing	Completed	Ongoing
Coimbatore	6	3	1	1	7	4
Madurai	..	..	2	2	2	2
Killikulam	..	..	2	..	2	..
Trichy	..	..	..	2	..	2
Mettupalayam	..	..	..	1	..	1
Kudumiyanmalai	..	1	..	..	..	1
Vazhavachanur	1	..	..	1	1	1
KVK, Dharmapuri		..	..	1	..	1
KVK, Vridhachalam	2	..	..	1	2	1
KVK, Kanyakumari	..	..	1	..	1	..
KVK, Needamangalam	1	..	..	..	1	..
KVK, Ooty	..	1	..	1	..	2
KVK, Tirur	..	..	..	1	..	1
Total	**10**	**5**	**6**	**11**	**16**	**16**

NEW PROJECTS PROPOSED DURING 2023-24

Campus	Externally funded projects		University sub-projects	
	Proposed	Obtained	Proposed	Obtained
Coimbatore	14	4	..	..
Madurai	8	..	1	1
Trichy	1	..	2	2
Killikulam	3	..	..	..
KVK, Dharmapuri	5	1	..	..
KVK, Vridhachalam	..	..	1	1
KVK,Salem	1	..	..	..
KVK, Nilgris	3	..	1	1
KVK, Needamangalam	1	..	..	..
KVK, Tindivanam	..	..	1	..
Total	**36**	**5**	**6**	**5**

D. Remarks on Ongoing Research Projects

S. No.	Project Number	Project Title	Project Period	Project Leader (PI/Co-PI)	Remarks
a.	**Externally funded Projects**				
1.	CDIL/CARDS/CBE/AERS/2021/R005	Neem - Based Bio-Pesticides in Crop Cultivation and Assessment of Its Impact and Future Potential.	1.10.2021-30.4.2024	PI: Dr. P. Balasubramaniam Co-PIs: Dr. S. Manickam Dr. P.S. Shanmugam Dr. R. Parimalrangan	The project may be completed
2.	RDO/DEE/KVK/ OTY/2024/r001	Promotion of Resilient Agriculture Practices among the Small and Marginal Farmers Through cluster approach in The Nilgris.	Jan 2023 -Dec 2026	Dr. C. Cinthia Fernandaz Dr. S.P. Thamaraiselvi Dr. S. Manivasakan CO-PI Dr. P. Raja Dr. B. Vinoth Kumar Dr. R.M. Jayabalakrishnan Dr. M. Vijayakumar Dr. L. Rajendran Dr. V. Karthick	The project may be continued
3.	JSPS/ACRI/KDM/DSS/2020/R002	Long Term Tank Performance and Institutional Effect of Irrigation Tank Management in Tamil Nadu.	1.3.2020 to 31.3.2024	PI: Dr. M. Jegadeesan Co-PIs: Dr. T. Rajendran Dr. S.R. Padma	The project may be completed
4.	ICSSR/CARDS/CBE/AE&RS/2024/R002	Climate-Smart Agriculture: A Path to Food Security in Climate-Vulnerable Agro-Climatic Zones of Tamil Nadu.	April 2024- Mar 2026	Dr. R. Premavathi	The project may be continued
5.	ICSSR/CARDS/CBE/AE&RS/2024/R001	Pesticide Usage Behaviour of Vegetable Farmers and its Impact on Soil and Human health.	April 2024- Mar 2026	Dr. A. Janaki Rani	The project may be continued
b.	**University Research Project**				

1.	CARDS/MDU/AE&RS/ HOR/2023/001	A Study on Pesticide handling and Health hazards in Vegetable Cultivation.	February 2023 to January 2025	Dr. R. Velusamy	The project may be continued
2.	CARDS/OTY/AEX/ Social SCI./2023/148	Medicinal Plants cultivation under contract farming in the Nilgris- A feasibility Study.	April 2023-March 2025	Dr. C. Cinthia Fernandaz	The project may be continued
3.	CARDs/TRY/AEX/ Social SCI./2023/190	A Study on technological gap in Recommended banana cultivation practices in Trichy District.	Aug 2023-July 2025	Dr. S. Sangeetha	The project may be continued
4.	CARDS/VRI/AEX/SOC AIL SCI./2023/159	Impact of Drone application in Agriculture on minimizing labour drudgery and enhancing sustainable livelihoods through KVK Interventions.	April 2023 to March 2025	Dr. Noorjehan A.K.A. Hanif	The project may be continued
5.	CARDS/APK/AG.EXTN /SS/2023/144	Adoption of Millet cultivation technologies and Marketing channels in Virudhunagar and Madurai Districts.	April 2023 to March 2025	Dr. G. Selvarani	The project may be continued
6.	CARDS/TRY/AEX/Soci al Sci./2023161	Impact Assessment of salt Tolerant TRY Rice varieties in Tamil Nadu State.	June 2023 to May 2025	Dr. A. Sakunthalai	The project may be continued
7.	CARDS/MTP/AEX/SO CIAL SCIENCE /2023/162	Study on Socio- Economic Potentials of Traditional Agroforestry vs Industrial Agroforestry systems in Coimbatore Dt.	July 2023 to June 2024	Dr. R. Jansirani	The project may be continued
8.	CARDS/VNR/AEX/SO CIAL SCI./2023/160	A study on the Adoption of improved cultivation practices in little millet (Samai) among farmers in Tiruvannamalai district of Tamil Nadu.	June, 2023 to May, 2025	Dr. P. Sumathi	The project may be continued
9.	CARDS/PPY/AEX/SOC AIL SCI./2024/029	An Analysis of Gender dynamics and its implications in Tamarind Value Chain in Dharmapuri district.	April 2024 to Sept. 2025	Dr. M.A. Vennila	The project may be continued
10.	TRRI/ TIR/ SOC/ 2022/001	Case Study on Performance of Farmers Producer Companies in Thiruvallur Dt.	July 2022 to June 2024	Dr. R. Agila	The project may be continued
11.	CARDS / CBE / ABD /SS / 2022 /001	Performance Analysis of Coconut FPOs in Western Tamil Nadu	Jan 2023 to March 2024	Dr. M. Shanthasheela	The project may be continued

IV. Agricultural and Rural Management

A. Key Findings of the Completed Projects

a. Externally Funded Projects

1.	**DST/CARDS/CBE/ARM/2020/R003** **Assessment of Demand and Supply of Industry Human Capital in Agribusiness Sectors**
	(Dr. S. Hemalatha, Dr. K. Mahendran, Dr. S. Moghana Lavanya, Dr. R. Balaji, Dr. D. Murugananthi, Dr. S. Anandhi)

- The future demand for industry human capital in the seed sector will be decreasing and industry human capital demand for the agrochemical sector will be increasing in future.
- The demand for the industry's human capital would increase when the attrition was reduced to 8 % and the demand for the agrochemical sector would decrease when the talent movement rate increased to 10 %.
- The source of recruitment to recruit experienced talent was employee referral. The sources to recruit fresh agribusiness graduates were campus interviews online job portals, and company websites.
- Agribusiness proficiency, intrapreneurship, relationship management, and leadership were the competencies required for the human capital for the marketing specialization.
- The seed and agrochemical companies can apply the model for estimating their future human resource requirements. They can recruit experienced talents using employee referral as it was found to be the best source of recruitment.

B. Action Plan (2022-2025)

S. No.	Project Number Project Title	Project Period	Project Leader (PI/CoPI)	Activities	Deliverables / Expected outcome
a.	**Externally Funded Project**				
Theme No: 2	**Institutions for Agribusiness**				
1.	GoTN / CARDS / CBE / ARM /2021 / R004 Preparation of Study on Groups (Part II) and State Level Up Gradation Plan (Part – III) - SLUP	Sep 2021-Mar 2025	Dr. N. Venkatesa Palanichamy Dr. D. Suresh Kumar Dr. C. Karthikeyan Dr. A. Rohini Dr. M. Chandra kumar Dr. D. Murugananthi	The final draft report of 37 districts was submitted for final suggestions. A presentation of the project findings was made. The project was transferred to the MSME Department from	Completion of project report and policy brief.

			Dr. P. Balaji Dr. K.R. Karunakaran	the Department of AM & AB, Chennai. Hence the project report was sent to MSME and the conduct of remaining stakeholder meets. The proposed Workshop is yet to be completed	
b.	**University Completed Project**				
1.	CARDS/CBE/ARM/SOCIAL SCI./2023/158 A study on the Performance of Farmer Producer Organizations (FPOs) in Tamil Nadu.	Apr 2023-Mar 2025	Dr. C. Velavan	Collection and analysis of primary data on selected FPOs Analysis of primary data for findings	Completion of project report and policy brief.
2.	CARDS/CBE/ARM/Social SCI./2024 Impact of FPO participation on farm household Income – study on selected FPOs under TNAU FPO linkage program.	Feb 2024-Dec 2025	Dr. D. Murugananthi Dr. C. Velavan	Completed the review of literature and prepared Questionnaire.	Completion of data collection and analysis.

C. Details of research projects:

A total of four projects being implemented in the Department of Agricultural Extension and Rural Sociology were reviewed. Out of which one externally funded project was completed and two university sub projects and one externally funded project are ongoing in this department.

CURRENT STATUS OF RESARCH PROJECTS

Departments	University sub projects		Externally funded projects		Total	
	Completed	Ongoing	Completed	Ongoing	Completed	Ongoing
Coimbatore	..	2	1	1	1	3
Madurai	..	..	..	..	..	..
Kudimiyanmalai	..	..	..	..	..	..
Mettupalayam	..	..	..	..	..	..
Total	**..**	**2**	**1**	**1**	**1**	**3**

NEW PROJECTS PROPOSED DURING 2022-2023

Campus	University sub projects		Externally funded projects		Consultancy Projects		Total	
	P*	O*	P*	O*	P*	O*	P*	O*
Coimbatore	3	2	10	..	2	1	15	3
Madurai	..	..	..	..	..	..	..	..
Kudimiyanmalai	..	..	..	..	..	..	..	..
Mettupalayam	..	..	..	..	..	..	..	..
Total	**3**	**2**	**10**	**..**	**2**	**1**	**15**	**3**

***P - Proposed and O - Obtained**

D. Remarks on ongoing Research Projects

S. No.	Project Number	Project Title	Project Period	Project Leader (PI/CoPI)	Remarks
A. Externally Funded Project					
Theme No: 2 Institutions for Agribusiness					
1.	GoTN / CARDS / CBE / ARM /2021 / R004	Preparation of Study on Groups (Part II) and State Level Up Gradation Plan (Part – III) - SLUP	Sep 2021-Mar 2025	Dr. N. Venkatesa Palanichamy Dr. D. Suresh Kumar Dr. C. Karthikeyan Dr. A. Rohini Dr. M. Chandrakumar Dr. D. Murugananthi Dr. P. Balaji Dr. K.R. Karunakaran	The project may be continued
B. University Completed Projects					
1.	CARDS/CBE/ARM/SOCIAL SCI./2023/158	A study on Performance of Farmer Producer Organizations (FPOs) in Tamil Nadu	Apr 2023-Mar 2025	Dr. C. Velavan	The project may be continued
2.	CARDS/CBE/ARM/Social SCI./2024	Impact of FPO participation on farm household Income – study on selected FPOs under TNAU FPO linkage program	Feb 2024-Dec 2025	Dr. D. Murugananthi Dr. C. Velavan	The project may be continued

V. REMARKS

A. General remarks:

- All the Social Scientists may be identified at the block level for each district to develop strategies to increase the farm income of Rs.2.5 lakh/annum/farm family (**Action**: Director, CARDS; All CARDS Scientists)

- Policy Brief developed as an outcome of research projects may be uploaded in the Agritech Portal for the benefit of stakeholders (**Action**: Prof and Heads, Dept. of Ag. Economics / AE&RS/ ARM).

- Third party for assessing the impact of TNAU-released varieties/Technologies may be identified and top TNAU varieties/technologies/implements may be identified and documented. (**Action**: Prof. and Head, Dept. Agrl. Economics/ AE&RS/ ARM)

- Prioritization of research may be given towards identification of research gaps in major crops (**Action**: Prof. and Head, Dept. Agrl. Economics/ AE&RS/ ARM)

- Efforts may be taken to communicate price advisories /market information of commodities in all Colleges/Research Stations/KVKS and also link through *Uzhavan* apps. (**Action**: Prof. & Head, Dept. of Ag. Economics/DEMIC in-charge)

- Scientists may be encouraged to publish their research findings in the peer reviewed journals having NAAS rating more than 7

- Efforts may be made to obtain more externally sponsored schemes

B. Agricultural Economics

- Price forecast may be done by accounting for farmgate and retail prices with three options per season: (i) early sowing, (ii) normal sowing time and (iii) delayed sowing. A pilot study on price forecasts for tomatoes may be carried out.

- Adoption rate of e-NAM and strategies to improve the e-NAM may be analysed and efforts may be taken to reach more number of farmers through KVKs.

- A detailed study on Value chain analysis of Niche crops may be carried out and potential zone for cultivation of Niche crops may be identified.

- The impact of MSP on major crops may be studied.

C. Agricultural Extension and Rural Sociology

- Location-specific research problems identified in each district may be circulated to all the Directorates of TNAU for the formulation of research projects.

- Paddy cum fish culture model may be introduced during samba season on a limited scale in the farmer's field for further upscaling for the benefit of paddy growers and its impact may be studied.

- Technology dissemination through KVKs may be strengthened and the performance /impact of KVKs may be documented.

D. Agricultural and Rural Management

- District-wise supply chain model for Niche products may be developed and documented.

- District-wise business plan and commercialization opportunities for smallholder Agri./Horti. Farms may be prepared and popularized.
- Driving Factors for Venture Capital and agribusiness startups among Agricultural graduates may be studied and success stories in Agricultural Entrepreneurship may be documented.

- Develop potential agro-tourism models tailored to various agro-climatic zones and agro-ecosystems.

VI. List of Participants

S. No.	Name	Designation and Department
1.	Dr. D. Suresh Kumar	Director (CARDS)
2.	Dr. N. Venkatesa Palanichamy	Dean (Agri), TNAU, Coimbatore
3.	Dr. P.P. Murugan	DEE, TNAU, Coimbatore
4.	Dr. A. Sakunthalai	Prof. & Head, ADAC&RI, Trichy
5.	Dr. R. Velusamy	Prof. & Head, AC&RI, Madurai
6.	Dr. N. Anandaraja	Prof. & Head, Training Division, DEE, TNAU, Coimbatore
7.	Dr. E. Salvadi Easwaran	Prof. & Head (Social Science), HC&RI (W), Trichy
8.	Dr. J. Pushpa	Prof. & Head (DEECM), CSC&RI, Madurai
9.	Dr. K. Uma	Prof. & Head (ARM), TNAU, Coimbatore
10.	Dr. R. Karunakaran	Prof. & Head, AC&RI, Kudumiyanmalai
11.	Dr. C. Karthikeyan	Prof. & Head, DAE&RS, TNAU, Coimbatore
12.	Dr. A. Malaisamy	Prof. & Head, Dept. of Agrl. Economics, AC&RI, Madurai
13.	Dr. R. Rajasekaran	Prof. & Head, Dept. of Agrl. Extn., AC&RI, Eachangkottai
14.	Dr. T. Dhamodaran	Professor (Agrl. Extn.), AC&RI, Keezhvelur
15.	Dr. K. Mahendrakumar	Professor, AC&RI, Kudumiyanmalai
16.	Dr. S. Selvam	Professor, Office of the Dean, ADAC&RI, Trichy
17.	Dr. T. Samsai	Professor (ARM), DPM, TNAU, Coimbatore
18.	Dr. R. Senthilkumar	Professor (Agrl. Extn.), ADAC&RI, Trichy
19.	Dr. M. Chandrakumar	Prof. (ARM), O/o. Dean (Agri.), TNAU, Coimbatore
20.	Dr. C. Muralidharan	Professor (ARM), ABD, TNAU, Coimbatore
21.	Dr. A. Janaki Rani	Professor (Agrl. Extn.), TNAU, Coimbatore
22.	Dr. M. Anjugam	Professor (Agrl. Extn.), TNAU, Coimbatore
23.	Dr. P. Jeyaseelan	Professor (Agrl. Extn.), TNAU, Coimbatore

S. No.	Name	Designation and Department
24.	Dr. M. Asokhan	Professor (Agrl. Extn.), TNAU, Coimbatore
25.	Dr. A. Rohini	Professor (ARM), TNAU, Coimbatore
26.	Dr. S. Moghana Lavanya	Professor (ARM), TNAU, Coimbatore
27.	Dr. N. Deepa	Professor (ARM), TNAU, Coimbatore
28.	Dr. S. Selvanayaki	Professor (ARM), TNAU, Coimbatore
29.	Dr. K.M. Shivakumar	Professor (Agrl. Economics), TNAU, Coimbatore
30.	Dr. K. Mahendran	Professor (ARM), TNAU, Coimbatore
31.	Dr. S. Angles	Professor (Agrl. Economics), TCRS, Yethapur
32.	Dr. N. Sriram	Professor (Agrl. Extn.), Directorate of Research, TNAU, Coimbatore
33.	Dr. C. Babu	Professor (PBG), Directorate of Research, TNAU, Coimbatore
34.	Dr. N. Balakrishnan	Professor (Agrl. Ento.), Directorate of Research, TNAU, Coimbatore
35.	Dr. P. Balaji	Professor (ARM), TNAU, Coimbatore
36.	Dr. V. Saravanakumar	Prof. (Agrl. Economics), CARDS, TNAU, Coimbatore
37.	Dr. R. Jansirani	Professor (Agrl. Extn.), HC&RI, Jeenur
38.	Dr. R. Manimekalai	Professor (Agrl. Extn.), COE, TNAU, Coimbatore
39.	Dr. L. Nirmala	Professor (Agrl. Extn.), KVK, Madurai
40.	Dr. M. Shantha Sheela	Professor (Agrl. Extn.), ABD, TNAU, Coimbatore
41.	Dr. R. Premavathi	Professor (Agrl. Extn.), TNAU, Coimbatore
42.	Dr. M. Nirmala Devi	Professor (Agrl. Extn.), TNAU, Coimbatore
43.	Dr. M. Malarkodi	Professor (ARM), TNAU, Coimbatore
44.	Dr. S. Hemalatha	Professor (ARM), FC&RI, Mettupalayam
45.	Dr. S. Padmarani	Professor (Agrl. Extn.), TNAU, Coimbatore
46.	Dr. M. Ramasubramanian	Professor (Agrl. Extn.), NOFRC, TNAU, Coimbatore
47.	Dr. M. Kavaskar	Assoc. Prof. (Agrl. Extn.), AC&RI, Vazhavachanur
48.	Dr. S. Senthilnathan	Assoc. Professor (Agrl. Extn.), TNAU, Coimbatore
49.	Dr. R. Balaji	Assoc. Professor, Dept. of ARM, AC&RI, Madurai
50.	Dr. R. Jayasankar	Assoc. Prof., Dept. of Agrl. Extn., AC&RI, Eachangkottai
51.	Dr. V. Sakthivel	Assoc. Professor (Agrl. Extn.), HC&RI, Periyakulam
52.	Dr. T. Raj Pravin	Assoc. Professor (Agrl. Extn.), HRS, Pechiparai
53.	Dr. M. Prahadeswaran	Assoc. Prof. (Agrl. Economics), TNAU, Coimbatore
54.	Dr. G. Anand	Assoc. Professor (Agrl. Extn.), TNAU, Coimbatore
55.	Dr. K. Divya	Assoc. Professor (ARM), TNAU, Coimbatore
56.	Dr. C. Cinthia Fernandaz	Assoc. Professor (Agrl. Extn.), KVK, Ooty
57.	Dr. S. Srivara Buddhi Bhuvaneshwari	Assoc. Prof. (Agrl. Extn.), FC&RI, Mettupalayam
58.	Dr. M.A. Vennila	Assoc. Professor & PC, KVK, Dharmapuri
59.	Dr. S. Nazreen Hassan	Assoc. Prof. (Agrl. Extn.), KVK, Thirupathisaram
60.	Dr. K.P. Vanetha	Assoc. Professor (Agrl. Extn.), AC&RI, Keezhvelur
61.	Dr. G. Selvarani	Assoc. Professor (Agrl. Extn.), AC&RI, Madurai
62.	Dr. V.M. Indumathi	Assoc. Professor (ARM), AC&RI, Kudumiyanmalai

S. No.	Name	Designation and Department
63.	Dr. Noorjahan A.K.A. Hanif	Assoc. Professor (Agrl.Extn.), AEC&RI, Kumulur
64.	Dr. S.R. Padma	Asst. Prof. (Agrl. Extn.), COE, TNAU, Coimbatore
65.	Dr. J. Thilagam	Asst. Prof. (Agrl. Extn.), DEE, TNAU, Coimbatore
66.	Dr. S. Sangeetha	Asst. Professor (Agrl. Extn.), HC&RI (W), Trichy
67.	Dr. Shibi Sebastian	Asst. Professor (Agrl. Extn.), KVK, Tindivanam
68.	Dr. D. Muruganantthi	Asst. Professor (ARM), ABD, TNAU, Coimbatore
69.	Dr. Darling B. Suji	Asst. Professor (Agrl. Extn.), HRS, Pechiparai
70.	Dr. N. Kiruthika	Asst. Prof. (Agrl. Economics), TNAU, Coimbatore
71.	Dr. T. Rajendran	Asst. Professor, VOC AC&RI, Killikulam
72.	Dr. R. Parimalarangan	Asst. Prof., Directorate of Research, TNAU, Coimbatore
73.	Dr. R. Muthukumar	Asst. Prof., Dept. of Agrl. Extn., TNAU, Coimbatore
74.	Dr. T. Sujaivelu	Asst. Prof., Dept. of Agrl. Extn., ADAC&RI, Trichy
75.	Dr. V. Kalirajan	Asst. Prof. (Agrl. Extn.), VOC AC&RI, Killikulam
76.	Dr. V. Karthick	Asst. Prof. (Agrl. Economics), TNAU, Coimbatore
77.	Dr. D. Periyar Ramasamy	Programme Coordinator, KVK, Needamangalam
78.	Dr. Jegadeesan	SMS (Agrl. Extn.), KVK, Ramanad

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