A STUDY ON AGRICULTURE PRODUCTIVITY IN PATTUKOTTAI CITY, THANJAVUR DISTRICT

Dr. K. Pushpam, Post Doctorate (ICSSR), Assistant Professor in Sociology, School of Law, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu District

S. Nivetha. B.A.LL.B. (Hons), School of Law, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu District

ABSTRACT

Agriculture continues to play a vital role in the economic and social structure of rural and semi-urban regions in Tamil Nadu. The present study focuses on analyzing the agricultural productivity in Pattukottai, a prominent agricultural block within the Thanjavur district, known for its fertile deltaic plains and historical significance in rice cultivation. The study aims to evaluate the trends in crop yield, identify key factors influencing agricultural productivity, and explore both the challenges and opportunities for enhancing farm output in this region. Pattukottai, though part of the agriculturally rich Thanjavur district, faces unique challenges due to its partial dependency on seasonal rainfall, canal irrigation from the Cauvery River, and limited adoption of advanced technologies. The research adopts a mixed-method approach**,** primary data collected through structured questionnaires, interviews with local farmers, and focus group discussions, along with secondary data from agricultural departments, government reports, and past research studies etc.,

The findings indicate that while paddy, groundnut, and coconut remain the dominant crops, productivity levels have fluctuated in recent years due to factors such as climate variability, declining groundwater levels**,** increasing input cost**s**, and fragmented landholdings**.** Moreover, the study highlights a significant gap in the awareness and implementation of modern agricultural practices, including mechanization, precision farming, organic methods, and access to institutional credit and market support.

Despite these challenges, the study also reveals considerable potential for improving agricultural productivity through integrated water management, better infrastructure, farmer training programs**,** promotion of crop diversification, and effective policy interventions. The role of agricultural extension services**,** cooperative societies, and digital tools in empowering farmers is also explored. This research contributes to a deeper understanding of local agricultural dynamics and provides actionable recommendations for

sustainable agricultural development in Pattukottai, aligning with the broader objectives of food security, rural income growth, and climate resilience in the delta regions of Tamil Nadu.

Keywords: Water management, reservoirs, technological support, pesticides, insecticides, threshers

Introduction

Agriculture is the backbone of the Indian economy, particularly in rural and semi-urban regions, where it serves as the principal source of livelihood for a significant portion of the population. Tamil Nadu, with its diverse agro- climatic zones, has a long-standing tradition of agriculture, and among its many districts, Thanjavur holds a prominent place as the "Rice Bowl of Tamil Nadu." Within this district, Pattukottai, a semi-urban agricultural hub, plays a vital role in food grain production and rural development.

Pattukottai is situated in the southern part of Thanjavur and is part of the fertile Cauvery delta region. Despite its rich natural resources, including fertile soil and moderate climatic conditions, agricultural productivity in Pattukottai faces numerous challenges. Issues such as changing monsoon patterns**,** declining groundwater levels**,** land fragmentation**,** and limited access to modern farming technology continue to affect crop yields and farmer income. Paddy is the major crop cultivated, alongside groundnut, black gram, and coconut, depending on seasonal variations and water availability.

This study seeks to examine the current status of agricultural productivity in Pattukottai by analyzing crop patterns, productivity trends, and the factors influencing them. It also aims to understand the socio-economic background of farmers, their access to irrigation, credit, input materials, and market linkages. The research will further explore how government schemes, agricultural extension services, and local institutions contribute to or hinder farm-level productivity. By focusing on Pattukottai, the study highlights the localized challenges and potentials within a district that has long been seen as agriculturally advanced. The insights gained from this study can help formulate targeted policy measures, improve infrastructure, and suggest sustainable farming practices suitable for delta regions. This research is also significant in the context of climate change adaptation**,** food security, and enhancing rural livelihoods, all of which are crucial for inclusive development.

Statement of Problem

Despite being situated in one of the most agriculturally fertile regions of Tamil Nadu, Pattukottai in Thanjavur district faces several challenges that affect agricultural productivity. While the region has traditionally depended on paddy cultivation and benefits from canal and groundwater irrigation, recent years have seen a decline in yield and farm income due to a variety of factors. These include climate variability, water scarcity, high input costs, low adoption of modern agricultural practices, and insufficient institutional support.

Many farmers in Pattukottai operate under small and marginal landholdings, making them more vulnerable to economic shocks and unpredictable weather. Access to government schemes, technological support, and proper market linkages is limited or uneven, and traditional methods continue to dominate farming practices. Additionally, challenges such as declining soil fertility, lack of storage facilities, and absence of crop insurance awareness further burden the farming community.

This research is driven by the need to Understand the current status of agricultural productivity, identify the key factors affecting productivity, such as irrigation, crop choice, technology use, and socio-economic conditions also deal with the challenges and limitations faced by farmers in increasing yield and income, the role of institutional support, including government programs and agricultural extension services and practical recommendations to improve productivity and livelihood outcomes for the farming community.

Objectives of the Study

- To study on living conditions of farmers in Pattukoatti, at Thanjavur district.
- To study on agricultural soil quality, climate conditions and uses of fertilizer, pesticides in the study area.
- To explore farmers' problems and the marketing strategies employed in the study area
- To suggest suitable solutions for their problems.

Need of the Study

Agriculture continues to be the primary source of livelihood for the majority of the population

in Pattukottai, a region within the agriculturally rich Thanjavur district of Tamil Nadu. Despite being located in the fertile Cauvery delta zone, many farmers in Pattukottai face low productivity and unstable income due to various challenges such as erratic rainfall, water scarcity, poor access to modern farming technologies, and limited institutional support. While government schemes and agricultural reforms have been introduced, their impact at the grassroots level remains unclear. There is a growing need to analyze the current status of agriculture in this region to understand the root causes of low productivity and identify the socio-economic and environmental barriers that farmers encounter. This study is essential to bridge the gap between policy and practice, by gathering field-level data that reflects the real conditions of farmers. Furthermore, the research will help in identifying the potential for improvements in farming practices, adoption of new technologies, and effective utilization of resources. The findings of this study will be useful for policymakers, agricultural officers, and rural development agencies to design region-specific strategies that enhance productivity and improve the livelihoods of farmers in Pattukottai.

Literature Review

The review of literature provides a foundation for understanding the key concepts, trends, and previous research findings related to agricultural productivity. Several studies have explored the determinants of farm productivity across various regions of India, especially in delta and semi-urban agricultural zones like those in Tamil Nadu.

According to **S. Chandrasekaran (2018)**, in his study pointed out that agricultural productivity in the Cauvery delta is highly influenced by water availability, soil fertility, and timely access to inputs such as seeds and fertilizers. The study highlights that consistent irrigation and government support are crucial in maintaining stable yields.

Palanisamy and Paramasivam (2020) conducted a study in rural Tamil Nadu which showed that land fragmentation and rising input costs were major constraints to smallholder productivity. Their findings emphasized the importance of mechanization and training programs in improving efficiency. Similarly, **Rajeswari et al. (2019)** studied the impact of modern farming techniques on paddy yield in Thanjavur district and found a positive correlation between the use of machinery and increased crop output.

NABARD (National Bank for Agriculture and Rural Development, 2021) revealed that

most small and marginal farmers in Tamil Nadu lack awareness about agricultural credit and insurance schemes, limiting their capacity to invest in improved farming practices.

Muthulakshmi and Kannan (2022) examined that the role of Farmer Producer Organizations (FPOs) and found that collective farming and group marketing significantly improved the bargaining power and income of farmers in delta regions. While several studies have been conducted at the district or state level, there is limited research focused specifically on **Pattukottai**, a region with distinct agricultural patterns and semi-urban challenges. This highlights the need for a localized study that captures the specific socio-economic and environmental factors affecting productivity in Pattukottai area. Understanding these aspects will help fill the gap in literature and provide targeted policy recommendations for enhancing agricultural sustainability and rural livelihoods in the region.

Study Area

The research was conducted in Pattukottai, a prominent agricultural block located in Thanjavur district, Tamil Nadu. This region was selected due to its significant dependence on agriculture and the presence of both traditional and modern farming systems.

Sample Size and Sampling Method

The sampling process plays a crucial role in ensuring the accuracy and representativeness of the study findings. For this research, the sample was carefully selected to reflect the diverse agricultural conditions, landholding sizes, and socio-economic backgrounds of farmers in the Pattukottai region of Thanjavur district.

A sample of 100 farmers was selected from in and around Pattukottai study area. This study has been used random and purposive sampling techniques. Care was taken to include farmers of different landholding sizes (small, marginal, and large), crop types, and socio-economic backgrounds to ensure representativeness from the study area.

A total of 100 farmers were selected as respondents for the study. The sampling was done using a combination of purposive and random sampling techniques. Initially, purposive sampling was used to select villages within Pattukottai block that are actively involved in agriculture and represent various irrigation patterns (canal-fed, rainfed, borewell-based farming). Then, from within these selected villages, random sampling was used to choose

individual farmer respondents to ensure impartiality and diversity.

The sample size of 100 was determined based on field feasibility, availability of respondents, and time constraints, while still aiming to provide meaningful insights into the agricultural conditions of the region.

Methodology

The Research methodology outlines the procedures and techniques used to collect, analyze, and interpret data relevant to the study. This study adopts a descriptive method to narrate the current status of agricultural productivity in Pattukottai and identify the various socio-economic, environmental, and institutional factors that influence it.

The present study follows a mixed-method approach, combining both quantitative and qualitative methods. Quantitative data was collected using structured questionnaires, while qualitative insights were obtained through personal interviews and field observations and explaining behind the reasons for agricultural productivity.

Definition of the concept used for the study

Farmers

According to this study farmer is a person who is engaged in agriculture cultivating land, growing, crops, or raising animals for livelihood or commercial gain is known as farmers.

Most of the farmers in Pattukottai rely on rain fed agriculture, borewells. The main crops grown by this farmer include paddy, coconut, groundnut, with the coconut farming being particularly prominent in the coastal area like Peravurani, Pattukottai at Thanjavur district.

Agriculture Productivity

Agricultural productivity refers to this study the amount of agricultural output such as production per unit area (example: kilograms per hectare) in a specific region over a defined period. This measure can be expressed as yield/ Output per hectare for a specific crop (example: rice, coconut, sugarcane).

Sources of Data

Primary Data: Collected directly from farmers through structured questionnaires, personal interviews, and field visits. Questions focused on cropping patterns, yield, irrigation, input usage, marketing practices, income, problems and awareness of government schemes.

Secondary Data: Gathered from official records, book, journals etc., for example Tamil Nadu Agriculture Department reports, District Statistical Handbooks, Government schemes (PM-KISAN, Soil Health Card, etc.), Previous academic studies, Reports from NABARD and other institutions.

Tools for Data Collection

The present study used Structured Questionnaire (for quantitative analysis), Interview Schedule (for qualitative insights) and Observation Checklist (for on-field data validation) as tools of data collection. The collected data was analyzed using simple statistical tools such as percentages, averages, and charts to identify patterns and trends. Comparative analysis was used to evaluate productivity levels across different types of farms. In addition, SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) was used to assess the overall agricultural situation in the region especially in the study areas.

Scope of the study

The present study focuses on analyzing the agricultural productivity in Pattukottai, a major agricultural productivity in Thanjavur district, Tamil Nadu. The scope of this research is limited to examining the factors that influence crop yield and farm performance among the farmers in this region. It covers a wide range of agricultural elements such as landholding patterns, cropping practices, irrigation methods, input usage, mechanization, and access to agricultural services and government schemes.

The study specifically targets small, marginal, and medium-scale farmers engaged in cultivating major crops such as paddy, groundnut, black gram, and coconut, which are predominant in Pattukottai. Also, it considers the socio-economic conditions of the farmers, level of awareness about modern technologies, and their participation in institutional support systems such as cooperatives and Farmer Producer Organizations (FPOs).

Geographically, the scope is restricted to selected village Pattukottai, and data is collected from a sample of 100 farmers using structured questionnaires, interviews, and field observations. The time frame of the study is based on the current agricultural season and the past 2–3 years' productivity trends, to ensure relevance and accuracy.

The study does not cover large-scale commercial farms or areas outside Pattukottai, nor does it focus in depth on agricultural exports or industrial processing units. However, the findings and suggestions from this research are expected to contribute to the policy formulation, rural development planning**,** and promotion of sustainable farming practices in similar semi-urban agricultural regions only in the research area.

Limitations of the Study

- The study is limited to the Pattukottai and may not fully reflect conditions in other parts of Thanjavur district.
- Time constraints and limited accessibility restricted the sample size is only 100 farmers.
- Farmer responses may be subject to recall bias or under-reporting in certain cases.

Data Analysis and Interpretation

1. **Landholding Size in the study area (Pattukottai)**

S.No.	Category	No.of Respondents	Percent
1.	Below 1 hectare	42	42
2.	2-3 hectares	38	38
3.	Above 3 hectares	20	20
	Total	100	100

Sources: Primary Data

- 42 percentage of the respondents were marginal farmers (below 1 hectare),
- 38 percentage were small farmers (2–3 hectares) and
- 20 percentage were medium/large farmers (above 3 hectares).

Most farmers are male, with only a small percentage of women actively involved in independent farming decisions. The educational level of farmers is generally low, which directly affects their awareness and adoption of modern agricultural practices.

This data reveals that the greater number of farmers are holding below one hectare land for their agricultural work which limits their ability to invest in mechanization for high-input and yielding in low level from their farming activities.

2. Major Crops Cultivated

S.No.	Category	No. of Respondents	Percent
1.	Paddy	82	82
2.	Groundnut	47	47
3.	Coconut	35	35
4.	Black gram and other pulses	28	28
	Total	100*	100*

Sources: Primary Data

*Multiple answers

Out of the total respondents for the study, the data presented below the major crops cultivated in

Pattukottai farmers in the study areas.

82 percent of the farmers are cultivated in Paddy for their own land simultaneously farmers are cultivated some other different crops in their land followed by Groundnut (47 percent), Coconut (35 percentage) and Black gram and other pulses (28 percentage)

Paddy is the predominant crop grown by over 82 per cent of farmers, followed by groundnut, coconut, and pulses. Despite fertile soil, crop productivity is not optimal due to water scarcity, outdated farming methods, and lack of crop rotation or diversification. Many farmers reported low yields and poor returns, especially in rainfed areas

It concludes that the agricultural laborers continuously cultivated in paddy crops. It is a dominate cultivation, owing to traditional practices and favorable in delta soil. However, crop diversification is slowly emerging and cultivated among the pattukottai agriculturalist such as Rice (35.7 percent), Wheat (21.4 percent), vegetables (14.3 percent), sugarcane (7.1 percent), pulses (7.1 percent), banana (7.1 percent), and coconut (7.1 percent).

3. Irrigation Facilities

S. No	Category	No. of Respondents	Percent
1.	Canal irrigation	54	54
2.	Borewell/Tube well	30	30
3.	Rainfed farming	16	16
	Total	100	100

Sources: Primary Data

From the 100 respondents are selected from study area, the different type of water sources is used for their agricultural activities like Drip irrigation (35.7 percent), sprinkler irrigation

(28.6percent), flood irrigation(21.4percent), well irrigation(7.1percent), surface irrigation(7.1percent), surface irrigation (7.1 percent).

About 54 per cent of the respondent are used canal irrigation for their farming and yielding activities followed by 30 per cent of them using borewell/ tube well irrigation facilities for their land and only 16 per cent of them using rainfed irrigation facilities. however, Pattukottai agricultural workers are regularly using their land for cultivating with utilization of available irrigation facilities. hence farmers are harvesting with minimum amount of output from their land.

Although canal irrigation is widely available, it is seasonal and unreliable, often delayed due to climatic issues. A growing number of farmers rely on borewell irrigation, leading to groundwater depletion. Rainfed farmers face higher risks of crop failure and income loss.

More number of respondents depending on canal irrigation. However, irregular water supply and seasonal variations affect yield stability. Farmers who relying solely on rainfed farming face higher risk. Farmers are faced the Challenges related to water unavailability like water shortage, unreliable supply of the production, seasonal variations in their study area.

4. Use of Fertilizers and Pesticides by the Respondents

S. No.	Category	No. of Respondents	Percent
1.	Chemical fertilizer	96	96
2.	organic supplements	24	24
3.	pesticides/insecticides	74	74
	Total	100*	100*

Sources: Primary Data

Multiple Responses*

Out of the total respondent selected for the study, 96 percent of the respondent reported that chemical fertilizer is most used for their agricultural productions followed by pesticides and insecticides (74 percent), and organic supplements (24 percent).

It is emphasis on heavy dependency on chemical inputs is evident in the study area. In this point of view in the study area are forgetting the traditional way of agricultural and cultivating method of the land due to the urbanization and they wanted to short term period yield/ harvest. But nowadays health conscious they wanted to know and creating awareness of organic method. Though organic method or try to get organic production from their land that kind related agricultural alternatives is slowly growing in the study area.

5. Mechanization and Technology Used for cultivating their lands

S. No.	Category	No. of Respondents	Percent
1.	Farmers own or rent tractors	26	26
2.	Power tillers or Threshers	28	28
3.	Depend entirely on manual labor	46	46
	Total	100	100

Sources: Primary Data

Total respondents interviewed for the study, about 46 percent of them used for cultivating the land by the usage of entirely in manual labour followed by power tillers or threshers (28 percent) and farmer own or rent tractors (26 percent)

46 percent of a respondents reported from the study area they entirely used for manual labor as mechanization and technology for their agricultural activities. Technological Mechanization is limited among marginal farmers due to high costs, indicating a need for shared services or subsidies and size of their land.

6. Crop Yield Satisfaction

- 52 Respondents were not satisfied with current yield levels, because of low level of production will be get due to water scarcity (39percent), pesticide attacks (24percent), high input costs (21percent), and soil degradation (16percent) and failure monsoon.
- Remaining 48 respondents are only satisfied for their crop yield, because of they use organic method for their yield and also, they have well and irrigation facilities. Yet to be yield dissatisfaction is widespread, and challenges are both environmental and economic in nature to the farmers.
- More number of respondents are not satisfied with crop yield due to some lack of sources and facilities in the study area.

7. Government crop insurance Scheme Awareness among the respondents in the study area

S. No.	Category	No. of Respondents	Percent
1.	PM-KISAN	35	35
2.	Soil Health Card	18	18
3.	Subsidy for seeds/fertilizers	35	35
4.	Crop Insurance	12	12
	Total	100	100

Sources: Primary Data

Total respondent selected for the study, as reported by the respondents in the study area farmers are aware about government crop insurance scheme. 35 percent of them aware PM KISAN followed by subsidy for seeds and fertilizer (35 percent), soil health card (18 percent) and crop insurance (12 percent).

Most farmers use chemical fertilizers and pesticides, but few have access to soil testing or modern agronomic advice. Mechanization is limited, especially among small farmers who cannot afford machinery. Awareness and promoting adoption of organic and sustainable farming practices are minimal.

Government schemes like PM-KISAN, Soil Health Card, and subsidy programs are covered by all the farmers, but actual utilization is low due to bureaucratic barriers or lack of information.

Awareness of government insurance schemes followed by the respondent in the study area, but the actual reach and impact are relatively low, especially among marginal farmers. Because some farmers are knowingly and unknowingly, they are not followed in the insurance scheme rules and procedures. very few farmers are only aware of or enrolled in crop insurance schemes.

8. Suggested improvements for irrigation infrastructure:

Suggested improvement	**Number of respondents**	**Percentage**
Upgrading infrastructure	25	35.7
Regular maintenance	15	21.4
Improved water management	15	21.4
Construction of reservoirs	10	14.3
other	5	7.1
Total	**70**	**100**

Sources: Primary Data

Total respondents selected for study, as reported by the respondents some suggested improvement in irrigation infrastructure in study area. 35.7 percent of them suggested upgrading their infrastructure followed by regular maintenance (21.4 percent), improved water management (21.4 percent), and construction of reservoirs (14.3 percent).

It concludes that, a greater number of the respondents are suggested to improve their infrastructure for the cultivating land and their living conditions.

Challenges Faced by Farmers

The most commonly reported challenges include:

- Water scarcity
- Rising input costs
- Pest and disease outbreaks
- Lack of government support and timely information
- Limited access to credit and storage

7. Marketing and Farmer Income

- Majority (63 per cent) of the farmers sell their produce to middlemen, often at prices lower than market value.
- Only a small percentage use regulated markets or FPOs, reducing their bargaining power.
- Average monthly agricultural income for most farmers is below ₹10,000, which is insufficient for sustaining a family, especially during poor harvest seasons.

Findings of the study

Based on the analysis of primary and secondary data collected from farmers in the Pattukottai

region, several important findings have emerged regarding agricultural productivity, farmer behavior, and challenges. These findings are categorized under key thematic areas:

- This study data reveals that the greater number of farmers are holding below one hectare land for their agricultural work which limits their ability to invest in mechanization for high-input and yielding in low level from their farming activities

- The present study concludes that the agricultural laborers continuously cultivated in paddy crops. this is a dominate cultivation, owing to traditional practices and favorable delta soil. However, crop diversification is slowly emerging and cultivated among the pattukottai agriculturalist

- This study finds out a greater number of respondents depending on canal irrigation. However, irregular water supply and seasonal variations affect yield stability. Farmers who relying solely on rainfed farming face higher risk.

- This Research emphasis on Heavy dependency on chemical inputs is evident in the study area. In this point of view in the study area are forgetting the traditional way of agricultural and cultivating the land due to the urbanization and they wanted to short term period harvest.

- The present study reflects that 46 percent of a respondents reported from the study area they entirely used for manual labor as mechanization and technology for their agricultural activities.

- It is found to be a greater number of respondents are not satisfied with crop yield due to some lack of sources and facilities in the study area.

- This study pointed out that Awareness of government insurance schemes followed by the respondent in the study area. very few farmers are only aware of or enrolled in crop insurance schemes.

- The present research reflects that a greater number of the respondents are suggested to improve their infrastructure for the cultivating land and their living conditions.

These findings clearly reveal that despite Pattukottai's agricultural potential, farmers face a

complex web of issues related to resource management, policy access, market linkages, and technological gaps and find out permanent solution for their problem.

Suggestions

The following practical and policy-level suggestions are recommended to improve agricultural productivity and farmer welfare in the Pattukottai region at Thanjavur District

- Improvement in Irrigation Facilities need to Strengthen and maintain the existing canal infrastructure to ensure timely and equitable water supply.
- To Promote drip and sprinkler irrigation methods, especially for water-scarce areas, with subsidy support for small and marginal farmers.
- Encourage rainwater harvesting and farm pond construction to store excess rainwater during monsoon.
- Awareness and Access to Government Schemes spread over among the publics and agricultural population. Organize village-level awareness camps on relevant schemes like PM-KISAN, Crop Insurance, Soil Health Card, etc., with cooperation and participation of local agricultural officers and Panchayats. Simplify the application procedures and provide handholding support to illiterate or elderly farmers to ensure better utilization of welfare schemes.
- Promotion of Modern with Sustainable Practices through Conduct training programs and field demonstrations on modern farming techniques such as organic farming, integrated pest management, and crop rotation.
- Provide access to agricultural extension services and experts who can guide farmers throughout the cropping season and suggest cultivation seasonal crops.
- Access to Inputs and Mechanization providing offer subsidies farm through shared service centers or FPOs to reduce the burden on individual farmers.
- Ensure timely supply of certified seeds, fertilizers, and pesticides at reasonable prices through regulated outlets.

- Strengthening Market Linkages will be provided to the farmers. Encourage the formation and functioning of Farmer Producer Organizations (FPOs) to help farmers access markets directly without an intervention of middlemen.

- Promote **e-NAM (National Agricultural Market)** and local procurement centers to ensure fair pricing and transparency.

- Credit and Insurance Support to be expand and that reach of agricultural labourers with the help of credit through cooperative banks and self-help groups.

- Promote compulsory crop insurance enrollment at the time of loan disbursement to protect farmers from climate-related losses.

Conclusion

The study on agricultural productivity in Pattukottai block of Thanjavur district highlights that while the region has significant agricultural potential due to its fertile soil and traditional farming culture, several systemic issues hinder its full realization. Small and marginal landholding patterns, inadequate irrigation, lack of awareness, high input costs, and weak market access have led to stagnant or declining productivity and income insecurity. By implementing region-specific, farmer-centric strategies such as improving irrigation, enhancing access to schemes, promoting sustainable practices, and strengthening market systems the agricultural landscape in Pattukottai can be significantly improved. Furthermore, empowering farmers through education, institutional support, and inclusive policies will not only raise productivity but also enhance rural livelihoods and ensure food security. A holistic and participatory approach involving government, local bodies, farmer groups, and NGOs is essential to bring about a sustainable transformation in the agricultural sector of Pattukottai.

References:

- Government of Tamil Nadu. (2023). *Thanjavur District Statistical Handbook*. Department of Economics and Statistics, Chennai.
- Tamil Nadu Agricultural University (TNAU). (2022). *Package of Practices for Crops in Tamil Nadu*. Coimbatore: TNAU.
- Sharma, A. & Singh, R. (2020). *Agricultural Productivity in India: Trends and Determinants*. New Delhi: Sage Publications.
- www.agritech.tnau.ac.in – Tamil Nadu Agricultural Information Portal (Accessed in July 2025)
- www.nfsm.gov.in – National Food Security Mission Website (Accessed in July 2025)
- www.districts.ecourts.gov.in/thanjavur – Thanjavur District Official Portal (Accessed in July 2025)

Research Questions

Section B: Agricultural Practices

1. What are the main crops you cultivate?

   ☐ Paddy ☐ Groundnut ☐ Coconut ☐ Pulses ☐ Others (specify): paddy and groundnut.

2. What type of irrigation do you use?

   ☐ Canal ☐ Borewell ☐ Rainfed ☐ Tank ☐ Drip/Sprinkler

3. Do you use fertilizers and pesticides?

   1. Yes ☐ No

If yes, ☐ Chemical ☐ Organic ☐ Both

4. Do you use machinery for farming?

   a. Yes ☐ No

If yes, what type? _____

Section C: Productivity and Output

5. Are you satisfied with your current crop yield?

   a. Yes ☐ No

6. What are the main reasons for low productivity? *(Tick all that apply)*

   a. Water shortage ☐ Soil problems ☐ Climate ☐ Pest attack ☐ Lack of inputs

   b. Lack of knowledge ☐ Market problems

7. Have you received any agricultural training or extension service?

   a. Yes ☐ No

8. Do you face difficulty accessing seeds, fertilizers, or credit?

   a. Yes ☐ No

9. Have you benefited from any government scheme?

   a. Yes ☐ No

If yes, name of the scheme: Pradhan Mantri Kisan Samman Nidhi

Section D: Marketing and Income

10. Where do you sell your produce?

    a. Local market ☐ Middlemen ☐ Regulated market ☐ Self-use only

11. Are you part of any Farmer Producer Organization (FPO) or cooperative?

    a. Yes ☐ No

12. Are you satisfied with the price you receive for your crops?

    a. Yes ☐ No

13. What is your average monthly income from agriculture?

    a. Below ₹5,000 ☐ ₹5,000–10,000 ☐ ₹10,000–20,000 ☐ Above ₹20,000