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**An Overview of the Agricultural Development in Tamil Nadu From 2010 to 2021, Focusing on the Area and Production of Major Crops**

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**Abstract**

In the process of economic development in less developed countries like India, agriculture is crucial. In addition to producing food for the country, agriculture also employs people, saves money, boosts the market for industrial goods, and generates foreign exchange. In some ways, the green revolution helped alleviate the early 1960s food crisis, but it also increased regional inequities in resource use, productivity, and cropping patterns. Promoting certain cash crops at higher prices causes shortages in other crops. Farm income and livelihoods are becoming more and more vulnerable as environmental, economic, and technological variables change. The purpose of the current research was to assess Tamil Nadu's agricultural production and area under cultivation from 2010 to 2021.

Agriculture is the primary source of food and means of subsistence for the vast majority of people in the world, according to the 2011 census. Increasing revenue prospects in the agricultural sector is a key strategy for reducing poverty because the majority of the population relies on it. Examining the area under cultivation and the production of important crops in TamilNadu is main of the study's objectives. From this data, conclusions regarding the elements that have increased output or improved resource usage may be drawn. How well a system will function across places with similar topography or crop production is another question that needs to be addressed. The article's content is urgently required, socially relevant, and current based on the aforementioned criteria. As a consequence, the article's main focus is on the area and crop production of TamilNadu's major crops from 2010 to 2021 as well as their economic implications on the agriculture sector.

**Keywords:** Agriculture, Economic Development, Productivity, Farm Income, Cropping Patterns, Agricultural Production, Livelihoods, Green Revolution and Agricultural Sector.

**1. Introduction**

A major pillar of the Indian economy, the agriculture industry employs 60 percent of the labour force and generates around 17 percent of the country's GDP. The majority of people on this world depend on agriculture for their food and means of subsistence. According to the 2011 census, 833 million people are thought to reside in India's rural areas. It's fascinating to notice that a large portion of the population in rural India depends on agriculture, mostly farming

and related activities, for their living. Since the majority of the population depends on agriculture, expanding income opportunities in the sector is an important way to combat poverty. Through expanding the opportunities in such rural regions on sectors, non-farming activities as well as agriculture have a wider scope. The economic activities associated with farming are linked to non-farming earning potential by this vicious cycle.

### *1.1. Statement of the Problem*

Numerous studies on the chosen topic have not examined the intricacies of agrarian change from a holistic perspective, and few studies have focused solely on reporting farmer perceptions. Thus, the goal of the current study is to examine how technology might change agricultural practices and benefit the farming community. This is the main query that this study seeks to answer. The objective is to have a clear scope of study and on the relevant technologies to target how it emphasises the current process and practices in use, even though encompassing and addressing all the technologies is a massive undertaking. The study's objectives include observing the methods used and developing qualitative and quantitative analyses that can produce data that may be used to draw conclusions about the elements that have increased production or improved resource usage. The success of a system that can be applied to areas with similar geography or crop production is the other issue that needs to be addressed. Based on the criteria presented above, the article's content is urgently needed, socially significant, and current. As a consequence, the focus of this article is mostly on the area and crop production of the primary crops in Tamil Nadu from 2010 to 2021 as well as their economic implications on the agricultural sector.

### *1.2. Objectives of the Study*

The article's main goals are to examine the area and crop production of the major crops in Tamil Nadu from 2010 to 2021, as well as their effects on the agricultural sector from an economical perspective.

### *1.3. Methodology of the Study*

The systematic approach to data gathering and analysis is the foundation of this study's strength. The descriptive and diagnostic analysis that underpins this study. The only primary data in this study are secondary data. The current analysis study will focus on Tamil Nadu, and secondary data has been gathered from a variety of public and published Reports. Additionally, books and periodicals from the University of Madras, Madras Institute of Development Studies, and Connemara Public Library have been heavily utilised in order to compile a thorough literature review in the pertinent subjects.

## *2. Tamil Nadu's state of agriculture*

The state's economy in Tamil Nadu is mostly determined by the agricultural sector, which also has a big impact on market, factor, and product determination. For the inhabitants of Tamil Nadu, agriculture has traditionally been their primary vocation. Farmers make up over 56 percent of the population in Tamil Nadu. The agricultural industry provides food for people and animals, respectively, as well as fodder. Many industries rely on it as a supply of raw materials. In Tamil Nadu, agriculture and its affiliated industries make up the majority of the local economy. With

93 percent of farmers being small and marginal, more than two thirds of rural households in the State still rely heavily on agriculture for their livelihood. During the Sangam era, the Tamil people used a particularly organised way of farming. It was well recognised that for a good yield, proper manuring, weeding, irrigation, and crop protection procedures had to be followed. Services make up 55percent of the state's economic activity, with manufacturing making up 34percent and agriculture making up 11 percent . Cashew, coffee, tea, rubber, betel vine, areca nut, coconut, bamboo, and cocoa are the main plantation crops of TamilNadu. Cashews can be cultivated in practically any type of soil and are referred to as the "Goldmine" of the telands. During the Sangam era, the Tamil people engaged in well organized farming practices. It was well understood that careful ploughing, manuring, weeding, irrigation, and crop protection were necessary for a good harvest. 75 percent of the population in Viluppuram, one of the most important agricultural districts, is employed in agriculture and related professions. The District's economy continues to be dominated by the agricultural industry. In the 722203 Ha. total geographic area, 337305 Ha., or 45 percent , are net sown areas. One of the few areas in the state known for its agricultural products is the district of Erode. The district's entire cultivated land covers 39percent of its total land area. Paddy, sugarcane, bananas, groundnuts, cotton, turmeric, and bananas are the main crops farmed in this region. Tamil Nadu has a large subsistence-intensive farming population. Wet farming, dry farming, and irrigation farming are the three categories into which farming practices are divided based on the availability of water for production. Over 81 percent of the state's total fruit production is produced by the top two fruit crops in Tamil Nadu: mango and banana. Nearly 53percent of the overall fruit area belongs to the mango. Mangoes are an ideal fruit for lowering cholesterol levels since they are abundant in vitamin C, fibre, and pectin. Wells, rainwater collection tanks, and river channels were the irrigation systems built in the Tamil region.

The expansion and development of the agricultural sector, which provides for the livelihood of millions of people as well as aids in a nation's economic and social development, is necessary for the country's food security. Through a variety of macroeconomic policy frameworks, the development of the agriculture sector through various reforms began in 1950–1951 and will continue through 2020–2021. Although there was little discussion specifically relating these reforms to agriculture, it is thought that the macroeconomic changes made during those times, such as changes to trade policies, currency devaluations, and reforms to industrial licensing, indirectly benefited agricultural trade discriminations and contributed to the sector's growth. This had the intention of significantly increasing agricultural exports.

Nearly 60 percent of the state's land area is thought to be used for agriculture. Agriculture will contribute 7.86 percent of GDP in 2020–21 and employ 64 percent of rural families, according to calculations. Agriculture's performance is largely influenced by many natural elements, including temperature, rainfall, and climatic conditions. The detail of Land utilization for Agriculture from 2010 to 2021 in TamilNadu is presented in table-1.

Table-1 Land utilization for Agriculture from 2010 to 2021 in TamilNadu

Year	Total Geographical Area		Gross areas own		Areas own more than once	
	Area in Ha.	Growth %	Area in Ha.	Growth%	Area in Ha.	Growth%
2010	13033116	0	5752664	3.2	799006	17.6
2011	13033116	0	5889672	2.4	903815	13.1
2012	13033116	0	5139832	-12.7	595592	-34.1
2013	13039633	0.05	5314586	3.4	682548	14.6
2014	13039633	0	5431507	2.2	832709	22
2015	13039633	0	5355466	-1.4	754434	-9.4
2016	13039633	0	5173380	-3.4	728784	-3.4
2017	13052672	0.1	5406182	4.5	768867	5.5
2018	13033000	1.0	5672086	2.6	790768	2.2
2019	13033000	0	5539134	-1.3	761651	-2.9
2020	13033000	0	5734500	1.9	748826	-1.2
2021	13033000	0	5770362	3.5	759776	1.0

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021 of Tamil Nadu, Government of TamilNadu, Chennai.

**2. Various issues of statistical Handbook of Tamil Nadu, 2010-2020, Department of Economics and Statistics, Chennai.**

Any change in the environment, like as a change in rainfall, can have a significant impact on agricultural output and patterns. Due to the rapidly expanding population, shifting trends in the demand for food items, and rise in household per capita income, the agricultural sector should grow at a rate of 4.4 percent annually. Given the agricultural sector's resiliency, there should be a clear paradigm shift to assure the sustainability of agriculture, better living conditions for farmers, and state-wide food security. The truth is that land has an inelastic character and can only be expanded up to a certain point. The available land must be utilized to its fullest capacity while keeping in mind the universal truth of limited land. The irony in this situation is that despite the fact that everyone understands and accepts this truth; the limited amount of land is further revered as a result of growing urbanization, industrial use, and other non-farming activities. In order to ensure the sustainability of agricultural lands, it is imperative to both enhance productivity and maintain the size of farmlands. Consequently, at this time, the descriptions that follow indicate the area under agricultural production, crop productivity in Tamilnadu and the Thiruvallur district, and are also investigated to analyse the many trends that have developed and during their form period.

The pattern of land use in Tamil Nadu from 2010 to 2021 is shown in Table 1. The information makes it crystal evident how the land has been used and how the pattern of farming in the state

of Tamil Nadu has changed. The data shows that there has been some degree of volatility in the area sown under cultivation, which is the other key criterion, from 2010 to 2021, even though there hasn't been a substantial change in the state's geographical area under cultivation. Gross area seeded decreased from 5889672 hectares in 2011 to 5139832 ha during the course of the research, a -12.7 percent fall overall. The area sown more than once was 903815 ha in 2011, but has since decreased to 595592 ha, representing a reduction of -34.1 percent over the course of the research. This empirical evidence unequivocally demonstrates that the state's agricultural activities have decreased overall since their form era. Inadequate rainfall, a shortage of irrigational water, industrial expansion, urban migration, etc. are other factors contributing to the agricultural sector's dismal state of decline. Consequently, it is necessary to implement better and more sophisticated technology in order to revive the state's agricultural sector. Table -2 details the area in Tamil Nadu that cultivated for food and non-food crops from 2010 to 2021.

Table-2 Area under cultivation for Food and non-food crops, 2010 to 2021 in TamilNadu

Year	Food		Non-Food		Total
	Area inHa	Proportion tototal	Area inHa	Proportion tototal	AreainHa.
2010	4269964	74.2	1482700	25.8	5752664
2011	4347486	73.8	1542186	26.2	5889672
2012	3718307	72.3	1421525	27.7	5139832
2013	3755490	72.3	1435740	27.7	5191230
2014	3868155	72.1	1493170	27.9	5361325
2015	3744374	71.7	1478238	28.3	5222612
2016	3706930	71.3	1493021	28.7	5199951
2017	4099865	73.1	1507951	26.9	5607815
2018	3606524	70.44	1510486	29.52	5117010
2019	3690589	71.00	1509219	29.02	5199808
2020	3698587	71.01	1509853	28.99	5208440
2021	3644588	70.71	1509536	29.29	5154124

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021 of Tamil Nadu, Government of TamilNadu, Chennai.

2. Various issues of statistical Handbook of Tamil Nadu, 2010-2020, Department of Economics and Statistics, Chennai.

Table 2 shows the area that was planted with both food and non-food crops during their search period. According to empirical research, there were 4269964 ha of food cropland under cultivation in 2010, making up around 74.2 percent of the total area under cultivation. This decreased to 3644588 ha in 2021 with a proportion of almost 70.71 percent being used for cultivation, which results in a 3.49 percent loss overall.

Approximately 25.8 percent of the total area was used for agriculture or 1482700 ha, when it came to the cultivation of non-food crops. In 2021, this was increased to 1509536 ha, with roughly 29.29 percent of the total area being used for cultivation, representing a 55.09percent drop overall. Therefore, it is abundantly clear from this empirical evidence that food crops are grown on the majority of cultivable soils. Paddy and other crops with higher water requirements have a significant position in the state's crop selection. Compared to food crops, less land is used for non-food crops. Even while the chart shows a troubling fact about there duction in the amount of land under cultivation, it also shows that during the study period, food crops gained prominence in the state of Tamil Nadu's crop selection. The details of Area under Cultivation formaj or Cereals from 2010 to 2021 in Tamil Naduaregiven in table-3.

**Table-3**  
Area under Cultivation for major Cereals from 2010 to 2021 in TamilNadu

Year	Paddy		Cholam		Cumbu		Ragi		TotalCereals	
	AreaInHa	Growth%	AreaInHa	Growth%	AreaInHa	Growth%	AreaInHa	Growth%	AreaInHa	Growth%
2010	1905726	3.3	243465	2.1	49482	-9.1	75650	-8.1	2537040	1.6
2011	1903772	-0.1	197696	-18.8	46664	-5.7	82805	9.5	2541748	0.2
2012	1493276	-21.6	210293	6.37	42928	-8	70294	-15.1	2134936	-16
2013	1314083	-12	236264	12.35	34385	-19.9	64460	-8.3	1744243	-18.3
2014	1261520	-4	243825	3.2	32082	-6.7	63235	-1.9	1651798	-5.3
2015	1614745	28	250652	2.8	32980	2.8	65448	3.5	1785593	8.1
2016	2018431	25	313315	25	33540	1.7	67150	2.6	1739168	-2.6
2017	1917510	-5	303163	-3.24	32065	-4.4	61509	-8.4	1822648	4.8
2018	1967971	5.0	308239	17.30	32803	7.3	64330	2.8	1780908	-4.2
2019	1907407	-1.8	450000	15.68	67492	34.6	84545	20.2	2868864	10.8
2020	1719592	2.2	377346	-7.2	50118	17.3	74438	-10.1	2324886	-5.4
2021	1937689	5.2	379119	1.70	54763	4.6	77825	3.3	2599589	2.7

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021of Tamil Nadu, Government of TamilNadu, Chennai.  
2. Various issues of statistical Handbook of TamilNadu,2010-2020,Department of Economics and Statistics, Chennai.

The area used for the cultivation of the main cereal crops in the state of Tamil Nadu between 2010 and 2021 is shown in Table 3. In terms of paddy, the area used for cultivation in2010 was 1905726 ha, and it has since expanded to 1937689 ha, representing an overall growth of 5.2 percent. For Cholam, the area used for farming in 2010 was 243465 hectares; by 2021, this had decreased to 379119 ha, representing an overall rise of 1.70 percent. In Cumbu, the area used for cultivation in 2010 was 49482 hectares, and in 2021 it will increase to 54763 ha, representing an overall development of 4.6 percent. In terms of ragi, the area used for cultivation in 2010

was 75650 hectares; in 2021, this climbed to 77825 ha, representing an overall growth of 3.3 percent. The entire area used for real production was 2537040 ha in 2010, and with an increase of 2.7 percent in 2021, that amount will have greatly risen to roughly 2599589 ha. Therefore, it is abundantly obvious from the empirical evidence that over the study period from 2010 to 2021, the area used for cereal production during the post-economic reform time period has demonstrated a consistent growth. However, it is clear from the study that the cultivation of rice, which uses more water than other cereals, was dropping at a slower rate. Between 2010 and 2021, there was an overall increase in the production of cereals in Tamil Nadu. Table -4 provides specific information about the primary pulses that will be grown in Tamil Nadu between 2010 and 2021.

Table-4 Area under Cultivation for major Pulses from 2010 to 2021 in TamilNadu

Year	Black Gram		Green Gram		Horse Gram		Red Gram		Total Pulses	
	Area in Ha	Growth %	Area in Ha	Growth %	Area in Ha	Growth %	Area in Ha	Growth %	Area in Ha	Growth %
2010	304432	17.2	171666	24.3	47320	0.2	35751	34.6	636735	18.8
2011	308263	1.3	164069	-4.4	68969	45.8	35968	0.6	666921	4.7
2012	208625	-32.3	118615	-27.7	63505	-7.9	42065	17	512650	-23.1
2013	234495	12.4	139017	17.2	52582	-17.2	41518	-1.3	491631	-4.1
2014	224646	-4.2	169879	22.2	54033	2.76	43553	4.9	510805	3.9
2015	218356	-2.8	159856	-5.9	51602	-4.5	38108	-12.5	504420	-1.25
2016	269014	23.2	196942	23.2	54337	5.3	41576	9.1	571003	13.2
2017	251528	-6.5	183747	-6.7	53413	-1.7	42283	1.7	573287	0.4
2018	274307	2.6	76862	0.7	53530	0.5	51632	0.5	850562	15.0
2019	317423	2.76	76414	0.66	61376	0.53	53236	0.46	823561	13.9
2020	295865	-2.1	76638	2.2	57453	-3.9	52434	-8.0	837062	13.5
2021	399968	10.4	164854	8.8	64757	7.3	46069	-6.3	788036	-4.9

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021 of Tamil Nadu, Government of Tamil Nadu, Chennai.

2. Various issues of statistical Handbook of Tamil Nadu, 2010-2020, Department of Economics and Statistics, Chennai.

The area in Tamil Nadu that was mostly used for pulse farming from 2010 to 2021 is depicted by the data in table 4. The area used for the cultivation of black gram decreased from 304432 ha in 2010 to 295865 ha in 2020, resulting in a net decrease of -2.1 percent. In 2010, 171666 ha were used for the production of green gram; by 2020, that number had dropped to 76638 ha, representing a 8.8 percent loss overall. Horse gram was cultivated on an area of 47320 ha in 2010;

this area climbed to 57453 ha in 2020, resulting in an overall decline of 82.36 percent. Red gram is grown on an area that was used for cultivation in 2010 that climbed to 46069 ha in 2021, a total growth of 77.6 percent. The area used for red gram cultivation in 2010 was 35751 ha. The entire area used for growing pulses was 636735 hectares in 2010, and by 2021, it was expected to have expanded by a staggering 788036 ha, or 80.8 percent. It is also abundantly clear that the area used for the cultivation of pulses has experienced a declining trend during the research period, but it has done so relatively more slowly than that of the cereals. Pulses are utilized mostly for exports rather than just home use. Pulses are a comparably safe crop to cultivate amongst the uncertainties of rain and water reliability in a drought-stricken state like Tamil Nadu because they require far fewer inputs than cereals, such as fertilizers, insecticides, irrigational water, etc. As a result, during the post-reform period, the proportionate fall in pulse cultivation was less. The details of Area under Cultivation for major cash crops in Tamil Nadu, 2010 to 2021 is shown in table-5.

Table-5 Area under Cultivation for major cash crops in Tamil Nadu, 2010 to 2021

Year	Sugarcane		Groundnut		Fruits and Vegetables	
	Area in Ha	Growth%	Area in Ha	Growth%	Area in Ha	Growth%
2010	315961	7.7	385509	-6.7	616358	0.3
2011	346350	9.6	385612	0	609576	-1.1
2012	348379	0.6	339361	-12	573365	-5.9
2013	355347	2.0	341737	0.7	569351	-0.7
2014	341133	-4.0	340370	-0.4	572198	0.5
2015	245616	-28	346156	1.7	562471	-1.7
2016	307019	25.0	336810	-2.7	566408	0.7
2017	322370	5.0	327716	-2.7	570373	0.7
2018	230756	-9.1	327962	2.4	568391	-1.9
2019	260546	2.9	338300	10.3	569382	0.9
2020	158056	-10.24	347016	8.7	568887	-0.4
2021	227692	7.0	332024	-1.4	601199	3.2

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021 of Tamil Nadu, Government of Tamil Nadu, Chennai.

2. Various issues of statistical Handbook of Tamil Nadu, 2010-2020, Department of Economics and Statistics, Chennai.

The area used for the cultivation of the main cash crops in Tamil Nadu from 2010 to 2021 is shown by the data in Table 5. In 2010, 315961 ha were used for sugarcane agriculture. By 2021, that number had dropped to 227692 ha, a significant reduction of 72.06 percent. Table-6 provides information on Tamil Nadu's production of key cereals from 2010 to 2021.



Table- 6 Production of major cereals in Tamil Nadu from 2010 to 2021

Year	Paddy		Cholam		Cumbu		Ragi		Total Cereals	
	Production(in tonnes)	Growth%	Production(in tonnes)	Growth%	Production(in tonsne)	Growth%	Production(in tonnes)	Growth%	Production(in tonnes)	Growth%
2010	5792415	2.2	246981	11.3	77369	-6.4	171096	6.3	7348930	0.7
2011	7458657	28.8	252522	2.2	114447	47.9	224862	31.4	9782482	33.1
2012	4050334	-45.7	174966	-30.7	56505	-50.6	138011	-38.6	5392862	-44.9
2013	4674085	15.4	194912	11.4	64529	14.2	139943	1.4	6158648	14.2
2014	3552305	-24	190234	-2.4	62980	-2.4	142882	2.1	6201759	0.7
2015	3236150	-8.9	175776	-7.6	58194	-7.6	137738	-3.6	5978496	-3.6
2016	4634167	43.2	152222	-13.4	58950	1.3	141733	2.9	6151872	2.9
2017	4935387	6.5	160138	5.2	61485	4.3	143859	1.5	6244150	1.5
2018	6131550	59.0	464481	4.5	118007	1.1	255975	2.5	9839458	94.7
2019	7265161	63.17	519821	4.52	185083	1.61	274474	2.39	10896630	94.75
2020	7200894	66.08	519054	4.90	182096	1.72	274186	2.60	10579696	97.09
2021	7500579	7.26	427228	4.13	158889	1.53	288627	2.79	10351791	97.84

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021of Tamil Nadu, Government of Tamil Nadu, Chennai.  
 2. Various issues of statistical Handbook of Tamil Nadu, 2010-2020, Department of Economics and Statistics, Chennai.

The area used for groundnut farming fell from 385509 hectares in 2010 to 332024 ha in2021, representing a drop of 86.12 percent overall. The area used for fruit and vegetable farming was 616358 ha in 2010 and has decreased to 601199 ha in 2021, a reduction of 97.54 percent overall. Therefore, it is clear from the empirical study that there has been a significant change in cropping patterns and that crop diversification has led to the replacement of cereal cultivation with cash crops like sugarcane, fruits, and vegetables because they provide farmers with greater economic benefits. The data also shows that from 2010 to 2021, there were variations in the amount of area used for growing fruits and vegetables. This is primarily due to less irrigation facility use, which encourages farmers to investigate more profitable crops for their economic viability.

Cereal production in Tamil Nadu from 2010 to 2021 is shown in Table 6. The production of paddy increased by 77.22 percent from 5792415 tonnes in 2010 to 7500579 tonnes in 2021.Cholam output climbed from 246981 tonnes in 2010 to 427228 tonnes in 2021, a rise of 57.81percent. Production of cumbu climbed from 77369 tonnes in 2010 to 158889 tonnes in 2021, a jump of 48.69 percent overall. The production of ragi climbed from 171096 tonnes in 2010 to288627 tonnes in 2021, a rise of 59.27 percent. The total production of grains climbed

from 7348930 tonnes in 2010 to 10351791 tonnes in 2021, a jump of 71.00%. Therefore, it is evident from the data that practically all grains had their production undergo significant alterations. Table 7 provides information on the output of major pulses in Tamil Nadu from 2010 to 2021.

Table-7 Major Pulses production in Tamil Nadu from 2010 to 2021

Year	Black gram		Green gram		Horse gram		Red gram		Total pulses	
	Production (in tonnes)	Growth %	Production (in tonnes)	Growth %	Production (in tonnes)	Growth %	Production (in tonnes)	Growth %	Production (in tonnes)	Growth %
2010	120011	21.6	57683	21	21749	-0.3	23671	16.8	245190	20
2011	178816	49	85118	47.6	37181	71	31292	32.2	369263	50.6
2012	88706	-50.4	33674	-60.4	25455	-31.5	33105	5.8	212574	-42.4
2013	90746	2.3	29835	-11.4	25811	1.4	34032	2.8	238721	12.3
2014	92380	1.8	36518	22.4	24650	-4.5	35495	4.3	232753	-2.5
2015	87853	-4.9	42945	17.6	25439	3.2	32052	-9.7	241132	3.6
2016	90752	3.3	42387	-1.3	28313	11.3	31636	-1.3	245472	1.8
2017	91841	1.2	40183	-5.2	30890	9.1	32110	1.5	241790	-1.5
2018	426332	81.25	180587	21.89	62207	7.54	49225	5.97	824696	29.32
2019	440974	51.84	170318	20.02	77453	9.11	41381	4.86	850562	96.95
2020	405323	49.21	171938	20.88	79058	9.60	41814	5.08	823561	96.82
2021	402196	50.09	160559	19.99	75816	9.44	47325	5.89	802926	97.49

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021 of Tamil Nadu, Government of Tamil Nadu, Chennai.

2. Various issues of statistical Handbook of Tamil Nadu, 2010-2020, Department of Economics and Statistics, Chennai.

The production of pulses in Tamil Nadu from 2010 to 2021 is explained by the data in Table-7. Black gram production went from 120011 tonnes in 2010 to 402196 tonnes in 2021, a jump of a total of 29.83 percent. Green gram output climbed from 57683 tonnes in 2010 to 160559 tonnes in 2021, a rise of 35.92 percent. Production of horse gram climbed from 21749 tonnes in 2010 to 75816 tonnes in 2021, a jump of a total of 28.68 percent. Red gram output climbed from 23671 tonnes in 2010 to 47325 tonnes in 2021, a rise of 50.01 percent.

The total production of pulses climbed from 245190 tonnes in 2010 to 802926 tonnes in 2021, a jump of 30.53 percent. Therefore, it is clear from the data that the production of the main pulses has altered significantly between 2010 and 2021. However, Tamil Nadu had a relatively smaller shift in the production of pulses over cereals. Table- 8 illustrates the production of the main cash crops in Tamil Nadu from 2010 to 2021.

Table- 8 Production of Major Cash crops in TamilNadu from2010 to 2021

Year	Sugarcane		Groundnut	
	Production (int tonnes)	Growth%	Production (int tonnes)	Growth%
2010	34251796	15.1	895638	0
2011	38974842	13.8	1060654	18.4
2012	34014097	-12.7	758362	-28.5
2013	31360997	-7.8	746228	-1.6
2014	32772242	4.5	653696	-12.4
2015	34050360	3.9	788357	20.6
2016	33437453	-1.8	823045	4.4
2017	34206515	2.3	760494	-7.6
2018	17153978	-50.1	1007452	24.7
2019	17096340	-1.0	911240	-9.6
2020	14119210	-29.7	1032903	12.16
2021	13284215	-8.3	1023404	-9.4

Source: 1. Compiled and calculated from Various issues of Season & Crop Reports, 2010-2021 of Tamil Nadu, Government of TamilNadu, Chennai.  
 2. Various issues of statistical Handbook of TamilNadu, 2010-2020, Department of Economics and Statistics, Chennai.

The production of the main cash crops grown in Tamil Nadu from 2010 to 2021 is shown in Table-8. The amount of sugarcane produced in 2010 was 34251796 tonnes, and in 2021, it was 13284215 tonnes, a drop of a total of 38.78 percent. Production of groundnuts went from 895638 tonnes in 2010 to 1023404 tonnes in 2021, an increase of a total of 87.51 percent. Consequently, it is clear from the data that there have been significant changes in sugarcane production between 2010 and 2021. It has been observed that there has been a notable demand from the sugar mills during this time, leading to this kind of steady increase in production.

**3. Conclusion**

Agriculture is the primary source of food and a means of subsistence for the vast majority of people in the globe. In India, 833 million people are estimated to live in rural areas, according to the 2011 census. Increasing revenue prospects in the agricultural sector is a key strategy for reducing poverty because the majority of the population relies on it. The purpose of the study on the influence of technological transformation in the agricultural sector was to investigate the effects of technology on agricultural productivity and cultivation methods. It has also made an effort to comprehend how farmers feel about using technology in their farming operations. The goal of the study was to comprehend how people's living standards and technology interact. Through study, an effort has been made to demonstrate the strong correlation between technology use and socioeconomic conditions of the populace. The study also attempted to demonstrate the connection between agricultural worker productivity and agricultural output. The analysis shows that farmers generally have a favourable view of using cutting-edge

technology that is innovative. In the current environment, numerous corporations are assisting agriculture to make it beneficial and positive like any other industry with the help of the government and other financial institutions. The wrath of nature, which can ruin any farmer's dream and threaten the country's food security, is an unavoidable fact. Therefore, it has been deduced from the study that a significant technical transition is necessary to restore this industry that is presently in decline. Despite its declining economic share over the past 50 years, TamilNadu's agricultural sector is still a vital part of the state's economy. The development of high-yield seed varieties, increased fertilizer use, and enhanced water management systems are only a few of the recent notable advancements in agricultural output in Tamil Nadu. Further increasing productivity and assisting Tamil Nadu in meeting its increasing food demand will be changes to the landholdings, water management, and food distribution systems.

### References

- ❖ Various Issues of Statistical Handbook, Government of TamilNadu, 2010- 2021.
- ❖ Human Development Report of TamilNadu, State Planning Commission, 2017.
- ❖ State Agricultural Plan, National Agricultural Development Programme (NADP), Government of TamilNadu, 2010-2019.
- ❖ Kuppan. M and Yoganandham. G (2016), “A Study on Agricultural Development on Post Reforms Period in India”, Published in International Journal of Business and administration Research Review-Peer Reviewed Quarterly journal, Vol.1, No.1, E-ISSN:2347-856X,ISSN:2348-0653.
- ❖ Yoganandham. G and Babitha. K (2019), “Usage of Drones in Precision Agriculture and challenges in introduction the Drone Technology for Local Farmers in India”, Journal of Emerging and Innovative Research, (An International open Access journal), vol.6, Issue.3, ISSN: 2349-5162.
- ❖ Yoganandham. G and Babitha. K (2019), “Farming as a Service (FaaS) – A Model to Support Indian Agriculture”, International Journal of Management Technology and Engineering, Vol.9, Issue.2.
- ❖ Mellor, J. W. (1966), “The economics of agricultural development”, The economics of agricultural development.
- ❖ Hayami, Y., & Ruttan, V.W. (1971), “Agricultural development: an international perspective”, Baltimore, Md/London: The Johns Hopkins Press.
- ❖ Barrett, C. B., Carter, M. R., & Timmer, C. P. (2010), “A century-long perspective on agricultural development”, American Journal of Agricultural Economics, 92(2), 447-68.
- ❖ Staatz, J. M., & Eicher, C.K. (1998), “Agricultural development ideas in historical perspective”, International agricultural development, 3.
- ❖ Nakasone, E., Torero, M., & Minten, B. (2014), “The power of information: The IC Revolution in agricultural development”, Annu. Rev. Resour. Econ., 6 (1), 533-550.
- ❖ Pinstrop-Andersen, P., & Shimokawa, S. (2006), “Rural infrastructure and agricultural development”, World Bank.

- ❖ Sangeet Ranguwal and Jatinder Sachdeva (2022), “Status and Utilisation Pattern of Farm Tractors in Punjab”, Agricultural Situation in India, Vol. LXXVIII, No. 11, February, 2022.
- ❖ Dorin, B. (2021), “Theory, Practice and Challenges of Agro ecology in India”, International Journal of Agricultural Sustainability  
([www.tandfonline.com/doi/full/10.1080/14735903.2021.1920760](http://www.tandfonline.com/doi/full/10.1080/14735903.2021.1920760)).
- ❖ Neelam Patel; Bruno Dorin and Ranveer Nagaich (2022) “A New Paradigm for Indian Agriculture from Agro industry to Agro ecology”, NITIAayog, ISBN: 978-81-953811-7-3.
- ❖ Himanshu Pathak, Anjani Kumar (2022) “Budget gives short shrift to agriculture”, The Hindu Business line, February 17, 2022.