

Original Research Article

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Impact of COVID-19 on Various Sectors in Tamil Nadu

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ABSTRACT

Covid-19 is recognized as one of the most tempting challenge and largest tragedy of the country after the Second World War. A novel respiratory disease has been reported in late December 2019 in Wuhan a city of Hubei province of China. The first case of the COVID-19 pandemic in the Indian state of Tamil Nadu was reported on 7th March 2020. Now, Tamil Nadu has the fourth highest number of confirmed cases in India after Maharashtra, Kerala and Karnataka. The objectives of the study was undertaken to know the impact of COVID 19 in various sectors of economy and area, production & productivity of major crops in Tamil Nadu by considering the data which are secondary in nature. Percent analysis was used to analyze the GDP for various sectors and growth rate was calculated for area, production and productivity of major crops using CGR. During 2019-20, the primary, secondary and tertiary sectors contributed about 12.89 per cent, 33.40 per cent and 53.67 percent respectively of total GSVA. On comparison, the Agriculture sector is not much affected. The manufacturing sector which is being severely affected due to the COVID-19. Regarding tertiary sector, the communication and other services have been increased in the pandemic situation which had an impact of increase in GSVA from 2019-20. Overall, the Gross State Value added (GSVA) had a positive growth in tertiary sector. In secondary sector, due to breakage in the distribution cycle, climatic factors and cultivation practices, the state faces a negative growth and the primary sector remains stable. Due to decline in agriculture and allied sector production, income support may be provided to farmers in general and particularly those engaged in poultry and fisheries sector. In this connection, enhancing the income support could be a good option. Opportunities for mask making, sanitizers, direct delivery of food grains, vegetables and fruits may be enhanced by SHGs and FPOs. Expanding digital infrastructure for online trading of agricultural goods.

Keywords

Gross State Value added (GSVA), Compound Growth Rate (CGR), Instability Index

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Introduction

COVID-19 is recognized as one of the most tempting challenge and largest tragedy of the country after the Second World War. A novel respiratory disease has been reported in late December 2019 in Wuhan a city of Hubei province of China.

It is now underlined by World Health Organization (WHO) as Corona virus disease or COVID 19. The entire world population currently faces enormous challenges (social, environmental, health and economic) due to impact of COVID 19. It is not only the global pandemic and public health crisis; it has also severely affected the global economic and financial market such as significant reduction in income, rise in unemployment, and disruption in transportation, service and manufacturing industries.

COVID-19 and Global Economy

The potential impact of COVID-19 on globalization and global health in terms of mobility, trade, travel, and countries. The economic impact was measured based on the event cancellations, food and agriculture, academic institutions, and supply chain.

The unprecedented time of COVID-19 and the implemented lock- down measures have influenced uncertainties regarding economic growth.

The uncertainty on the global growth forecast by the International Monetary Fund (IMF) in 2020 is expected to decline by 3 per cent, and by 6.1 per cent for advanced economies. Additionally, China, the second- largest economy, reported a reduction of 6.8 per cent in the first quarter. The lockdown measures have also increased telework and telecommuting, canceled operations, and restricted supply and demand.

COVID 19 and Indian Economy

The economic impact of the COVID-19 pandemic in India has been largely disruptive. India's growth in the fourth quarter of the fiscal year 2020 went down to 3.1 per cent according to the Ministry of Statistics. The Chief Economic Adviser to the Government of India said that this drop is mainly due to the corona virus pandemic effect on the Indian economy. The corona virus pandemic will result in erosion of purchasing power due to job losses or pay cuts and slow-down effect of deferred demand will have a longer lasting impact on different sectors, especially where demand is discretionary in nature. India's real GDP depleted to its bottom in over six years during 2019-20.

COVID-19 Pandemic in Tamil Nadu

The first case of the COVID-19 pandemic in the Indian state of Tamil Nadu was reported on 7 March 2020. The largest single-day spike (30,987 cases) was reported on 13 May 2021 and now Tamil Nadu has the fourth highest number of confirmed cases in India after Maharashtra, Kerala and Karnataka.

The nationwide lockdown has impacted farmers and floriculturists in the state. The Tamil Nadu Federation of All Farmers' Association said that about 15 lakh acres of summer paddy and 8 lakh acres of groundnuts across the state were affected due absence of labor for harvesting amid lockdown. Perishables such as fruits and vegetables cannot be taken to markets without transportation.

The present study is undertaken to know the impact of COVID 19 in various sectors of Tamil Nadu Economy by considering the data which are secondary in nature. The Study area was Tamil Nadu which is the tenth largest state in southern India. Its capital and largest

city is Chennai. The state has a total geographical area of 1, 30,058 km².

It is the most urbanized state in India, and one of the most industrialized states; the manufacturing sector accounts for more than one-third of the States GDP.

In Tamil Nadu consists of 38 Districts and more than 215 taluks. It is reported that Tamil Nadu has the fourth highest number of confirmed cases with 16,813 followers by Kerala, Karnataka, and Maharashtra. Hence the present study is undertaken to know the impact of COVID 19 in various sectors of Tamil Nadu Economy.

Tools of Analysis

Data analysis tools helps to make sense of collected data. It enables to report results and interpretation.

Percentage Analysis

It is used to analyze the GDP (Gross Domestic Product) for various sectors in Tamil Nadu. Graphs and Pie charts have been used for the recent trends.

Gross Domestic Product (GDP)

Gross Domestic Product represents the total monetary value of all final goods and services produced within a country during a period of time.

$$GDP = C+I+G+(X-M)$$

Where, C =consumer spending; I= Investment; G= Government spending; X= exports; M= imports

Gross Value Added (GVA)

Gross Value Added is an economic

productivity metric that measures the contribution of a corporate subsidiary or municipality to an economy, producer, and sector. GVA thus adjusts GDP by the impact of subsidies and taxes on products.

$$GVA = GDP+ SP- TP$$

Where, SP= subsidiary products; TP= Taxes on products

Compound Growth Rate (CGR)

The growth rate was calculated using CGR (Naval *et al.*, 2016) in which the indicators used were area, production and productivity of major crops in Tamil Nadu. The compound growth rate was calculated by fitting exponential function

$$Y(t) = ab^t e^u$$

Where

Y(t) = Variable for which the growth rate is calculated

t = Time variable (1, 2... n) for each period/year

a = Constant

b = (1 + r), and

r = Compound growth rate

The log transformation of the above function is:

The above equation was transformed in logarithmic form as:

$$\text{Log } Y_T = \ln(a) + t \ln(b) + u$$

CGR (g) in percent per annum was computed from the relationship:

$$G = \{(\text{anti ln of } \ln b) - 1\} * 100$$

Results and Discussion

The objectives of the study is to know the impact of the pandemic disease (COVID 19) in various sectors, Agricultural production of Tamil Nadu, the data collected are based on review as well as secondary data and the following results were represented under the following subheads.

Impact of Covid-19 on various sectors of Tamil Nadu

Growth trend in area, production and productivity of major crops in Tamil Nadu

Impact of Covid-19 on various sectors of Tamil Nadu

Tamil Nadu is the second wealthiest state in India by GDP and is the most industrialized state in India.

Gross State Value added by Economic activity

Indian economy is classified into three major sectors namely (i) primary sector or agriculture sector (includes forestry and fishing); (ii) secondary or industry Sector (includes mining and quarrying, manufacturing-registered and unregistered, gas, electricity, construction, and water supply); (iii) tertiary or services sector (includes financial, real estate and professional services, public administration, defense and other services, trade, hotels, transport, communication and services related to broadcasting).The GSVA of Tamil Nadu for 2019-20 was furnished in Table 1. During 2019-20, the primary, secondary, and tertiary sectors contributed are 12.89 the per cent, 33.4 the per cent, 53.67 the per cent respectively of total GSVA.

On comparison, the primary sector has not much increased or decreased which means

Agriculture sector is not much affected. The Manufacturing sector (secondary sector) which is being severely affected due to the pandemic disease COVID-19 due to migration of labour. Regarding tertiary sector, the communication and other services have been increased in the pandemic situation which had an impact of increase in GSVA from 2019-20.

Overall, the Gross State Value added (GSVA) had a positive growth in tertiary sector. In secondary sector, due to breakage in the distribution cycle, climatic factors, cultivation practices the state faces a negative growth and the primary sector remains stable.

Growth Trend in area, production and productivity of major crops in Tamil Nadu

The COVID-19 pandemic has influenced the lives of people across the globe and India is no exception to that. The farming activities also experienced the impact of this pandemic as the covid-19 induced lockdown influenced the moments of farm inputs including farm machinery from one location to other.

The national lockdown coincided with the commencement of the harvesting season for the Rabi crops creating further adversity for the sector. Migration of agricultural laborer's to their native places during the lock down created a shortage of farm laborers.

The Trend in Growth and Instability of area, production and productivity of Food grains includes Cereals, pulses and millets, commercial crops such as cotton and oil seeds in Tamil Nadu were estimated by Compound Growth rate.

From the table 2, the growth rate of food grains on the prospects of area and productivity showed positive trends with one per cent level, while the production of total food grains showed negative trends.

Table.1 Gross State Value added by Economic Activity at Current Prices (Rupees in Lakh)

S.No.	Particulars	2019-20	Percent Share
1.	Agriculture, forestry and fishing	21045379	12.53
1.1	Crops	10394881	6.19
1.2	Livestock	8753879	5.21
1.3	Forestry and logging	714453	0.43
1.4	Fishing and aquaculture	1182167	0.70
2.	Mining and quarrying	611007	0.36
	<i>Primary</i>	21656387	12.89
3.	Manufacturing	34892494	20.77
4.	Electricity, gas, water supply & other utility services	3205838	1.91
5.	Construction	18089138	10.77
	<i>Secondary</i>	56187469	33.44
6.	Trade, repair, hotels and restaurants	20448571	12.17
6.1	Trade & repair services	17955062	10.69
6.2	Hotels & restaurants	2493509	1.48
7.	Transport, storage, communication & services related to broadcasting	9853242	5.86
7.1	Railways	755622	0.45
7.2	Road transport	4902133	2.92
7.3	Water transport	101188	0.06
7.4	Air transport	165728	0.10
7.5	Services incidental to transport	1175703	0.70
7.6	Storage	50500	0.03
7.7	Communication & services related to broadcasting	2702368	1.61
8.	Financial services	9095187	5.41
9.	Real estate, ownership of dwelling & professional services	30049209	17.88
10.	Public administration	5188805	3.09
11.	Other services	15539054	9.25
	<i>Tertiary</i>	90174068	53.67
12.	Total GSVA at Basic Prices	168017924	100.00

Table.2 CGR (per cent per annum) and Instability in Area, Production and Productivity of Food grains in Tamil Nadu (2010-11 to 2019-2020)

Sl. No	Details	Total Food grains	
		CGR	Instability index
1.	Area ('000 ha)	1.86	9.0
2.	Production ('000 t)	-6.58	140.2
3.	Productivity (kg/ha)	1.12	17.9

Table.3 CGR (percent /annum) and instability in Area, Production and Productivity of Commercial Crops (cotton) (2010-11 to 2019-20)

Sl.No.	Details	Commercial crops	
		CGR	Instability Index
1.	Area ('000 ha)	2.00	14.3
2.	Production ('000 t)	-4.287	23.1
3.	Productivity (kg/ha)	-6.167	20.7

Table.4 CGR (per cent per annum) and Instability in Area, Production and Productivity of Oil seeds in Tamil Nadu (2010-11 to 2019-20)

Sl. No	Details	Oil Seeds	
		CGR	Instability Index
1.	Area ('000 ha)	-1.23	8.3
2.	Production ('000 t)	-0.099	14.2
3.	Productivity (kg/ha)	1.15	10.3

Fig.1 Percent Share to Gross State Value Added (2019 – 2020)

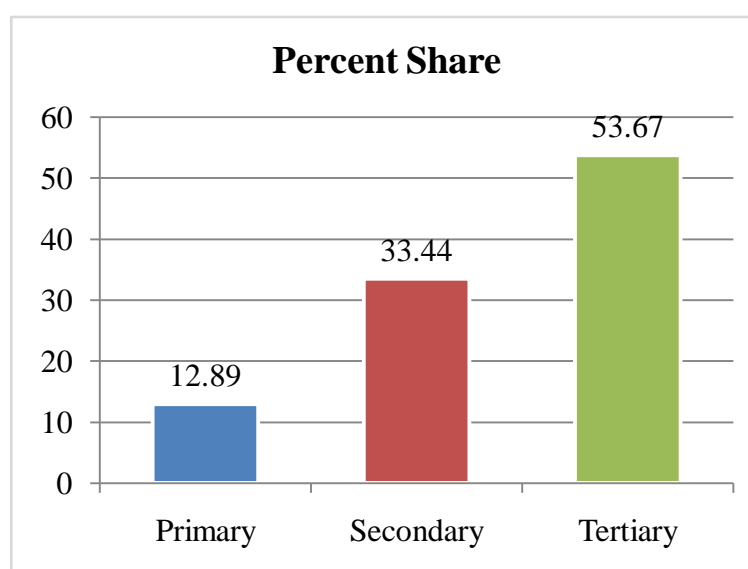


Fig.2 Area, Production and Productivity of Food Grains.

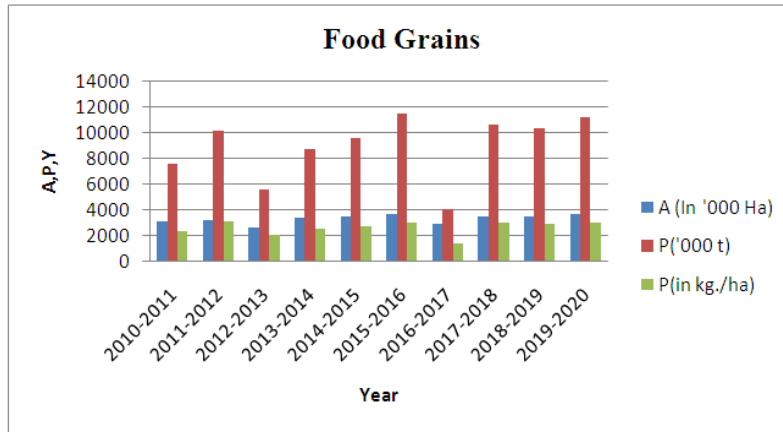


Fig.3 Area, Production and Productivity of Commercial crops (Cotton).

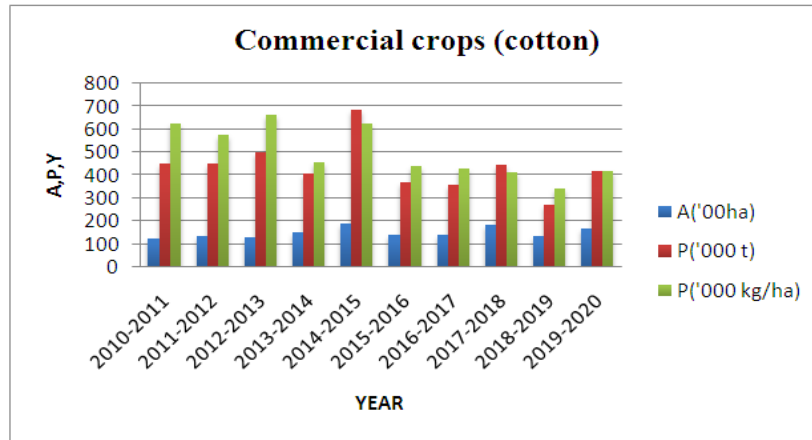
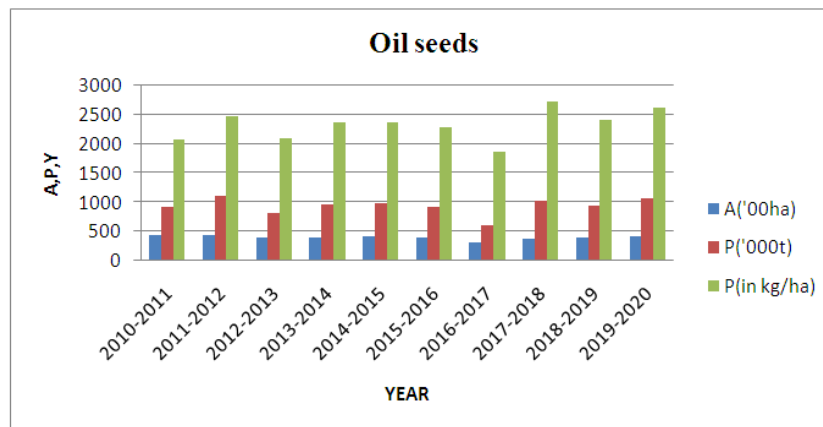


Fig.4 Area, Production and Productivity of oil seeds.



On comparing two years data, the per cent change in 2018-19 and 2019-20 showed an increase in area with 5.6 percent, production about 8.5 percent and productivity was 2.7

percent. The instability index for the Food grains during the one decade was higher for production.

The growth rate of commercial crops (Cotton) on the prospects of area showed positive trends and significant in nature. Whereas in production and productivity showed negative trends. During 2019-20, the per cent change over 2018- 19 in production was (55.3 per cent), area (27.8 per cent) and productivity (21.5 per cent) respectively. The instability index for commercial crop(cotton) for one decade was higher for production (Table 3.) The growth rate of Oil seeds area and production showed negative trends while in productivity shows positive trends and significant in nature. On comparing two years 2018-19 and 2019-20, the per cent change in area, production, productivity (0.09percent), (0.005 percent),(0.14 percent) respectively. The instability index for the oil seeds for a decade was higher in the case of production (2010-11 to 2019-2020).

Policy Implications

Due to decline in agriculture and allied sector production, income support may be provided to farmers in general and particularly those engaged in poultry and fisheries sector. In this connection, enhancing the income support could be a good option.

Due to poor recovery, interest waiver for Agri term loan for at least one year may be provided by Banks.

Opportunities for mask making, sanitizers, direct delivery of food grains, vegetables, fruits may be encased by SHGs and FPOs.

Launching awareness camps and

disseminating information on coping/dealing with COVID-19 or similar such emergencies by SHGs, FPOs and FCs in rural areas.

Expanding digital infrastructure for online trading of agricultural goods.

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