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### Trends of area, production and productivity of garlic in Dindigul district, India

M.Manoharan and T.Ramalakshmi\*

PG and Research Department of Commerce, CPA College, Bodinayakanur – 625513, India

\*Corresponding author

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#### A B S T R A C T

Garlic is now cultivated extensively in countries like China, India, Egypt, USA, Russia and Korea. China occupies the first position in garlic cultivation in terms of production, India occupying the second position in production. The average share of India in garlic cultivation in the world in production is 5.08 per cent. In India, Gujarat leads in production. In Tamil Nadu, production had both increasing and decreasing trend during the study period. Tamil Nadu's average share in garlic cultivation in India in production is 0.47 per cent. In Dindigul district, the study area, it's average production of garlic during the study period was 2080 tonnes per hectare. Dindigul district ranks first in production. Dindigul district, the study area has all possibility to increase production if new technologies in agriculture, labour saving and new techniques are used.

### Introduction

Garlic is one of the most popular spices in the world and it is extensively used in all the countries. Since ancient times, garlic has been used as a good cure. Garlic is one of the important bulb crops grown and is used as a spice or condiment not only in India but also throughout the world. Several advanced agricultural techniques are followed in production of garlic all over the world. But due to natural havocs, drought, pests, diseases and unfavourable climatic conditions, the farmers do not get good

value of money in production and therefore it is imperative to take innovative steps to increase production and productivity of garlic. China, India, Republic of Korea, Russia and Egypt are major garlic producing countries in the world.

They contribute an average of 81.13 per cent in total production of garlic and 75.95 per cent of the total garlic producing area. Garlic is one of the most important spices grown in India and a small quantity of garlic is also

exported from India. India has been exporting garlic for many years.

### **Need of the study**

Garlic is one of the most important spices that have been cultivated throughout the world from the antique past. It has been used extensively both as an important food ingredient and as a component in pharmaceutical preparations. At the world level, China ranks first in area and production of garlic followed by India. However, India turns out poor performance in productivity lagging far behind countries like Egypt, China and USA. To add to this, the cost of production in garlic cultivation is on the constant increase which is a major constraint in competing in the international trade to earn a sizable profit both in cultivation and marketing. An attempt is made in to present a global perspective of the total area and production of garlic and their trend in growth and its magnitude of variability during the study period. A similar attempt is also made at the State level in India and District level in Tamil Nadu.

The main objective of this study, to study and analyze the trend, growth and magnitude of variability in production of garlic cultivation in Dindigul District in Tamil Nadu, India.

### **Materials and Methods**

The present study is based entirely on secondary sources. The secondary data regarding production of 2000 to 2010 were collected from the Horticulture Department of State. The study entails a temporal as well as spatial analysis of the growth of production of Garlic grown in Tamil Nadu. In the present study, an attempt has been made to compare the difference in growth of production Garlic. The time series data on

area, production and productivity of Garlic were obtained from various publications of Government of Tamil Nadu. Data were collected from various journals, books, news papers, Spices Statistics published by the Spices Board Cochin, Statistical Year Book, the report of Directorate of Economics and Statistics, Ministry of Agriculture and Websites.

### **Tools of analysis**

#### **Trend**

Trend in area, production and productivity of garlic were estimated with simple regression equation of the following form:  $y = a + bt$

Where,  $y$  = Area is the production in the year;  $a$  = constant;  $b$  = regression coefficient;

$t$  = time in years

#### **Growth per formation and magnitude of variability**

Nilakandha Rath in his study recommended that in biological process like agricultural growth, compound growth rate was more appropriate for analyzing the growth rate for a period of time. Considering his view, the compared growth rate with regard to production has been estimated on the basis of semi-log exponential function.  $\log y = a + bt$ ;

Where,  $y$  = area, production and productivity;  $t$  = time periods;

' $a$ ' and ' $b$ ' are to be estimated

Compound Growth Rate (CGR) =  $(\text{antilog } b - 1) \times 100$

To measure the magnitude of variability in area, production and productivity, coefficient of variation (CV) is used.

$$CV = \frac{\text{Standard Deviation}}{\text{Mean}} \times 100$$

## **Results and Discussion**

The production of Garlic in Dindigul District has been studied as under.

### **Profile of garlic cultivation in Tamil Nadu**

Garlic in Tamil Nadu is produced in about 560 hectares of land in 2009-10 spread across Dindigul, Erode and Nilgiri and some other districts. The state produces about 3390 tonnes of garlic with productivity of about 6054 kgs per hectare. Tamil Nadu's share of garlic production to India during 2000- 2001 to 2009-2010 was 0.39 per cent. The demand for garlic in the state is consistently on the rise due to its inevitable use in cooking, pharmaceutical preparations, value added products and the like. Therefore, garlic produced in the state being inadequate, it is imported from other states like Gujarat and Maharashtra. Garlic in Tamil Nadu is mostly cultivated in hill tracts where the required climate, humidity, facilities for irrigation and the like prevail. However, the total area under garlic cultivation is about 560 hectares and it has not been extended further due to factors like uncongenial weather conditions, erratic monsoon, pests and diseases, fluctuation in price structure, the disadvantages caused by the liberalization policies in trade which allow free import and export of commodities to any part of the world and so on. In general, there has not been significant increase in area, production and productivity in garlic cultivation in Tamil Nadu.

Tamil Nadu is one of the garlic producing states in India and it is grown in some

districts of the state where it is suitable to grow. The details about the area of garlic cultivation, production and productivity in Tamil Nadu, with details on the percentage of increase or decrease over the previous years are presented for analysis.

### **District-wise area under garlic cultivation in Tamil Nadu**

Garlic is cultivated in some of the districts of Tamil Nadu like Dindigul, Erode Nilgiris and a few other districts. In this context, it is necessary to know the area under garlic cultivation and the details are presented in table 1.

Table 1 reveals that of the three major garlic producing districts of the state, Dindigul district ranks first in area of garlic cultivation with a total extent of 345 hectares per annum followed by Nilgiris district with 104 hectare and Erode with 33 hectare of garlic cultivation. The area of garlic cultivation which was at 333 hectare in 2000-01 increased to 439 hectares in 2002-03. But it drastically came down to 362 hectare in 2009-10. In Nilgiris district, the area of garlic cultivation increased to a certain extent during 3 years from 2007-08 to 2009-10. In Erode district, the area under garlic cultivation remained without much difference. The average total extent of area under garlic cultivation in Tamil Nadu was 508 hectare during the study period. The percentage share of Dindigul to the total area of Tamil Nadu was 68.05 per cent followed by Nilgiris with 20.40 per cent, Erode with 6.47 per cent and other districts of the state had the share of 5.09 per cent to the total.

### **Compound Growth rate and Magnitude of Variability**

District-wise growth rate of area, Production and productivity of garlic and

their magnitude of variability in Tamil Nadu are furnished in table 2.

Table 2 reveals that the trend in growth of area under garlic cultivation in Dindigul district is negative but not significant. It implies that there is no significant decrease in area under garlic during the study period. The area under garlic is increasing at the rate of 0.69 per cent per annum. It could also be seen that over the study period, there had been an increase in the area under garlic cultivation in Nilgiris by 4.23 per cent per annum. There had been also an increase in the area under garlic cultivation in Erode by 1.16 per cent per annum.

It is also observed that area under garlic cultivation during the period under study experienced considerable variation of 33.05 per cent in Erode. For the same period, the variation in Nilgiris was 22.61 per cent and in Dindigul it was 10.09 per cent.

#### **District - wise production of garlic in Tamil Nadu**

The average production of garlic from 2000-01 to 2009-10 by the major garlic producing districts in Tamil Nadu and their percentage share of production are given in table 3.

Table 4 presents the average volume of garlic production from various districts of Tamil Nadu from 2000-01 to 2009-10. Among the major districts, Dindigul district stands in first place with the average of 2080 tonnes per annum, followed by Nilgiris district in second position with 554 tonnes and Erode district in the third place with 180 tonnes of garlic production per annum. The Dindigul district contributed 68.93 per cent of share in the total quality of garlic production in Tamil Nadu followed by the Nilgiris district with 18.36

per cent and the Erode district with 5.96 per cent during the period under study. It is also observed that there was a vast difference in production of Dindigul district and other major garlic producing districts in Tamil Nadu. Conducive climate, fertility of the soil, monsoon showers and irrigation facilities, improved methods of cultivation and the like are some of the factors for the concentration of garlic production in Dindigul district.

#### **Trend, growth rate and magnitude of variability for district - wise garlic production in Tamil Nadu**

The trend, growth rate and magnitude of variability of major garlic producing districts in Tamil Nadu are computed and the results are presented in table 4.

Table 4 helps us understand that among the selected districts both Erode and Nilgiris showed positive trend but without significance. From this, it is evident that there is insignificant increase in garlic production in these districts. The garlic production is increasing at the rate of 2.56 per cent per annum and 1.63 per cent per annum for Nilgiris and Erode districts respectively.

In case of Dindigul District, trend coefficient is negative but not significant. It implies that Production is not decreasing significantly. The production is decreasing at the rate of 1.16 per cent per annum during the period under study. The reasons attributed to such decrease may be due to irregular monsoon. The highest variation in terms of magnitude of variability of 28.20 per cent is found in Dindigul district and it is followed by Nilgiris and Dindigul district at 20.46 per cent and 10.22 per cent respectively.

### **District - wise productivity of garlic in Tamil Nadu**

The average productivity of major garlic producing districts of Tamil Nadu are presented in table 5.

Table 6 reveals that trend in Garlic productivity in all the major garlic producing districts in Tamil Nadu is positive and statistically not significant. It is also inferred that Garlic productivity in Erode had increased at the rate of 2.80 per cent per annum, Nilgiris and Dindigul Districts had negative compound growth rate at 1.85 per cent and 0.46 per cent per annum respectively. It is also observed that a high degree of co-efficient of variation of 27.59 per cent was found in Erode followed by 7.34 per cent in Nilgiris and it was 2.45 per cent in Dindigul district.

### **Garlic cultivation in Dindigul District**

Garlic is grown in many places in Dindigul district, especially in hill tracts. The district has the conducive climate, soil structure and the like which are ideal for garlic cultivation. Therefore, it is necessary to examine the area under garlic cultivation in Dindigul district.

### **Area under garlic cultivation in Dindigul District**

The area under Garlic cultivation in Dindigul district and the percentage of increase or decrease over the previous years are given in table 7.

It is inferred from table 7 that the area under garlic cultivation in Dindigul district increased from 312 hectares in 2004 -05 to 335 hectares in 2005 -06 making an increase of 7.37 per cent as compared to previous year. This might have been due to

favourable climatic condition prevailed in this area during 2005-06. It is also found that the area under garlic cultivation in Dindigul district which stood at 333 hectares in 2000-01 increased to 439 hectares in 2002-03 thus making 16.82 per cent increase over the previous year.

However, the area under garlic cultivation in Dindigul district decreased from 439 hectares in 2002-03 to 342 hectares in 2003-04 making a negative annual growth rate of 22.10 per cent over the previous year. During 2004-05 the area under garlic cultivation in Dindigul district declined by 30 hectares over the previous year 2003-04 making 8.77 per cent decrease in area under garlic cultivation in Dindigul district. This might be due to pests and diseases and failure of monsoon during that year.

### **Garlic production in Dindigul District**

The garlic production in Dindigul district during the period from 2000-01 to 2009-10, their percentage of increase or decrease over the previous years are presented in table 8.

From table 8 it is observed that the production of garlic in Dindigul district ranged from 1903 tonnes in 2004 -05 to 2086 tonnes in 2007-08. The garlic production which was 2043 tonnes in 2005-06 had 7.36 per cent increase over the previous year. These increases might be due to scientific method of cultivation, the use of right fertilizers, favourable climate conditions and the timely monsoon. The production increased substantially from 2079 tonnes in 2006-07 to 2086 tonnes in 2007-08, making 0.34 per cent increase over the previous year and from 2036 tonnes in 2008-09 to 2067 tonnes in 2009-10 making 1.52 per cent increase over the previous year.



It is also observed that the production declined from 2677 tonnes in 2002-03 to 2085 tonnes in 2003-04 making a 22.11 per cent shortfall over 2002-05. This decrease in production was caused by the unfavourable climate condition and the incidence of pests and disease in 2003-04. In 2008-09 also production decreased sharply by 50 tonnes over the previous year 2007-08 making 2.40 per cent reduction in production.

### **Garlic productivity in Dindigul District**

The level of productivity determines the pattern of production in agriculture and garlic cultivation is not exception to it. The average yield of garlic per hectare, the percentage of increase or decrease and the trend values are presented in table 9.

It is inferred from table 9 that the productivity in garlic cultivation remained almost the same from the year 2000-01 to 2007-08 and had a decreasing trend in 2008-09 to 2009-10. The productivity which stood 6099 kilograms per hectare in 2000-01 remained the same in the year 2007-08. Thereafter, it got reduced to 5784 kilograms in 2008-09 and 5710 kilograms in 2009-10.

The trend value shows that productivity of garlic in Dindigul district was almost the same with negligible differences up to 2004-05 but thereafter, it experienced a gradually declining trend from 2006-07 to 2009-10 with slight differences in the level of productivity.

### **Growth rate and magnitude of variability of garlic cultivation in Dindigul district**

To estimate trend in area, production and productivity of garlic cultivation in Dindigul district, compound growth rate has been calculated. To analyses the magnitude of

variability, co-efficiency of variation has been used and the results are presented in table 10.

Table 10 reveals that trend in area, production and productivity of garlic cultivation in Dindigul district is negative but not significant. It implies that there is a decrease in area, production and productivity of garlic cultivation during the period under study, however the decrease is not statistically significant. It is also inferred from the analysis that area under garlic is decreasing at the rate of 0.69 per cent per annum, productivity by 0.46 per cent and production by 1.16 per cent per annum. The decrease in production was due to decrease in area and productivity. It confirms the fact that production is the function of area and productivity. The analysis also reveals that there is 10.09 per cent variation in the area under garlic, 10.22 per cent variation in production and only 2.45 per cent variation in garlic productivity. It implies that productivity of garlic in this district is more consistent than area and production in garlic cultivation.

### **Dindigul district's contribution to garlic cultivation to Tamil Nadu**

Table 11 illustrates the contribution made by Dindigul district in garlic cultivation in terms of area, production and productivity to Tamil Nadu from 2000-01 to 2009-10.

It is observed from table 4 that percentage share of area of garlic cultivation in Dindigul district to Tamil Nadu's total ranged from 64.64 per cent to 70.85 per cent during the study period. The maximum contribution by the Dindigul district stood at 77.91 per cent during the period 2005-06. On an average, area of garlic cultivation in Dindigul district to that of Tamil Nadu stood at 68.05 per cent.

**Table.1** District -wise Area under Garlic cultivation in Tamil Nadu  
During 2000-01 to 2009-10

Year	Dindigul	Erode	Nilgiris	Others	Total
2000-01	333	36	81	20	470
2001-02	389	30	81	0	500
2002-03	439	43	83	5	570
2003-04	342	18	140	100	600
2004-05	312	24	101	3	440
2005-06	335	13	78	4	430
2006-07	341	30	88	69	528
2007-08	342	39	124	0	505
2008-09	352	30	120	28	530
2009-10	362	43	125	30	560
<b>Average</b>	<b>345</b>	<b>33</b>	<b>104</b>	<b>26</b>	<b>508</b>
<b>Per cent Share</b>	<b>68.05</b>	<b>6.47</b>	<b>20.40</b>	<b>5.09</b>	<b>100.00</b>
<b>Rank</b>	<b>1</b>	<b>3</b>	<b>2</b>		

(hectares)

Sources: 1. "Agricultural Statistics" – Department of Statistics, Tamil Nadu.

2. "Seasonal and Crop Report of Tamil Nadu from 2000-2001 to 2009-2010"

**Table.2** Trend, Growth Rate and Magnitude of Variability of District –wise Area under  
Garlic Cultivation in Tamil Nadu

Districts	Semi-log		R <sup>2</sup>	CGR (per cent/ annum)	CV (Per cent)
	Constant	Regression co-efficient			
<b>Dindigul</b>	2.564 (0.029)	-0.003 <sup>NS</sup> (0.005)	0.047	-0.69	10.09
<b>Erode</b>	1.430 (0.122)	0.005 <sup>NS</sup> (0.020)	0.009	1.16	33.05
<b>Nilgiris</b>	1.898 (0.057)	-0.018 <sup>NS</sup> (0.009)	0.0335	4.23	22.61
<b>State Overall Total (Tamil Nadu)</b>	2.694 (0.34)	0.003 <sup>NS</sup> (0.005)	0.026	0.69	10.84

Source: Computed from table 1

Figures in parentheses denote standard errors

NS: Not Significant

**Table.3** District -wise Garlic Production in Tamil Nadu during 2000-01 to 2009-10

(tonnes)					
Year	Dindigul	Erode	Nilgiris	Others	Total
2000-01	2031	203	452	194	2880
2001-02	2332	185	483	0	3000
2002-03	2677	192	450	61	3380
2003-04	2085	121	775	429	3410
2004-05	1903	135	576	16	2630
2005-06	2043	73	433	11	2560
2006-07	2079	169	488	404	3140
2007-08	2086	220	688	0	2994
2008-09	2036	214	566	394	3210
2009-10	2067	217	595	511	3390
<b>Average</b>	<b>2080</b>	<b>180</b>	<b>554</b>	<b>204</b>	<b>3018</b>
<b>Per cent Share</b>	<b>68.93</b>	<b>5.96</b>	<b>18.36</b>	<b>6.75</b>	<b>100.00</b>
<b>Rank</b>	<b>1</b>	<b>3</b>	<b>2</b>		

Sources: 1. "Agricultural Statistics" – Department of Statistics, Tamil Nadu.  
2. "Seasonal and Crop Report of Tamil Nadu from 2000-2001 to 2009-2010"

**Table.4** Trend, Growth Rate and Magnitude of Variability of District –wise Garlic production in Tamil Nadu

Districts	Semi-log		R <sup>2</sup>	CGR (per cent/ annum)	CV (Per cent)
	Constant	Regression co-efficient			
<b>Dindigul</b>	3.356 (0.028)	-0.005 <sup>NS</sup> (0.004)	0.145	-1.16	10.22
<b>Erode</b>	2.178 (0.109)	0.007 <sup>NS</sup> (0.018)	0.020	1.63	28.20
<b>Nilgiris</b>	2.675 (0.057)	0.011 <sup>NS</sup> (0.009)	0.144	2.56	20.46
<b>State overall</b>					
<b>Total (Tamil Nadu)</b>	3.468 (0.032)	0.003 <sup>NS</sup> (0.005)	0.036	0.69	9.97

Source: Computed from table 4  
Figures in parentheses denote standard errors  
NS: Not Significant



**Table.5** District -wise Productivity of Garlic in Tamil Nadu during 2000-01 to 2009-10

Year	(kgs/ha)				
	Dindigul	Erode	Nilgris	Other	Total
2000-01	6099	5639	5580	970	6128
2001-02	5995	6167	5963	0	6000
2002-03	6098	4930	5675	1220	5930
2003-04	6096	1513	5536	429	5683
2004-05	6099	5625	5703	533	5977
2005-06	6099	5615	5551	275	5953
2006-07	6097	5633	5545	586	5947
2007-08	6099	5641	5548	0	5929
2008-09	5784	7133	4717	1407	6057
2009-10	5710	5047	4760	1703	6054
<b>Average</b>	<b>6026</b>	<b>5226</b>	<b>5416</b>	<b>728</b>	<b>5949</b>
<b>Rank</b>	<b>1</b>	<b>3</b>	<b>2</b>		

Source: Computed figure

**Table.6** Trend, growth rate and magnitude of variability of garlic productivity in major garlic producing District in Tamil Nadu

Districts	Semi-log		R <sup>2</sup>	CGR (per cent/ annum)	CV (Per cent)
	Constant	Regression co-efficient			
<b>Dindigul</b>	3.792 (0.006)	-0.002* (0.001)	0.386	-0.46	2.45
<b>Erode</b>	3.630 (0.133)	0.012 <sup>NS</sup> (0.021)	0.039	2.80	27.59
<b>Nilgris</b>	3.782 (0.015)	-0.008 <sup>NS</sup> (0.002)	0.591	-1.85	7.34
<b>State Overall Total (Tamil Nadu)</b>	3.774 (0.006)	0.00 <sup>NS</sup> (0.001)	0.006	-	1.99

Source: Computed from table 6

Figures in parentheses denote standard errors

\*Significant at Five per cent level

NS: Not Significant

**Table.7** Area under garlic cultivation in Dindigul District from 2000-01 to 2009-10

<b>Year</b>	<b>Area (Hectares)</b>	<b>Increase / Decrease</b>	<b>Percentage Increase / Decrease</b>	<b>Trend Value</b>
2000-01	333	-	-	367
2001-02	389	56	16.82	365
2002-03	439	50	12.85	362
2003-04	342	-97	-22.10	359
2004-05	312	-30	-8.77	356
2005-06	335	23	7.37	353
2006-07	341	6	1.79	350
2007-08	342	1	0.29	348
2008-09	352	10	2.92	345
2009-10	362	10	2.84	342

Sources: 1. "Agricultural Statistics" – Department of Statistics, Tamil Nadu.  
2. "Seasonal and Crop Report of Tamil Nadu from 2000-2001 to 2009-2010"

**Table.8** Garlic production in Dindigul District from 2000-01 to 2009-10

<b>Year</b>	<b>Production (Tonnes)</b>	<b>Increase / Decrease</b>	<b>Percentage Increase / Decrease</b>	<b>Trend Value</b>
2000-01	2031			2259
2001-02	2332	301	14.82	2231
2002-03	2677	345	14.79	2203
2003-04	2085	-592	-22.11	2176
2004-05	1903	-182	-8.73	2148
2005-06	2043	140	7.36	2120
2006-07	2079	36	1.76	2092
2007-08	2086	7	0.34	2064
2008-09	2036	-50	-2.40	2037
2009-10	2067	31	1.52	2009

Sources: 1. "Agricultural Statistics" – Department of Statistics, Tamil Nadu.  
2. "Seasonal and Crop Report of Tamil Nadu from 2000-2001 to 2009-2010"

**Table.9** Garlic productivity in Dindigul District from 2000-01 to 2009-10

Year	Productivity (Kilograms / Hectare)	Increase / Decrease	Percentage Increase/ Decrease	Trend Value
2000-01	6099	-	-	6153
2001-02	5995	-104.24	-1.71	6123
2002-03	6098	103.09	1.72	6093
2003-04	6096	-1.46	-0.02	6063
2004-05	6099	2.87	0.05	6033
2005-06	6099	-0.85	-0.01	6003
2006-07	6097	-1.74	-0.03	5972
2007-08	6099	2.65	0.041	5942
2008-09	5784	-315.33	-5.17	5912
2009-10	5710	-74.15	-1.28	5882

Source: Computed figure

**Table.10** Trend, growth rate and magnitude of variability of area, production and productivity in garlic cultivation in Dindigul district

Particulars	Semi-log		R <sup>2</sup>	CGR (per cent/ annum	CV (Per cent)
	Constant	Regression co- efficient			
Area	2.564 (0.029)	-0.003 <sup>NS</sup> (0.005)	0.047	-0.69	10.09
Production	3.356 (0.028)	-0.005 <sup>NS</sup> (0.007)	0.145	-1.16	10.22
Productivity	3.792 (0.006)	-0.002 <sup>NS</sup> (0.001)	0.386	-0.46	2.45

Source: Computed figure

Figures in parentheses denote standard errors

**Table.11** Dindigul District's share of garlic cultivation to Tamil Nadu during 2000-01 to 2009-10

Year	Contribution of Dindigul District to Tamil Nadu		
	Per cent share in Area	Per cent share in Production	Productivity (no. of times)
2000-01	70.85	70.52	0.99
2001-02	77.80	77.73	0.99
2002-03	77.02	79.20	1.03
2003-04	57.00	61.14	1.07
2004-05	70.91	72.36	1.02
2005-06	77.91	79.80	1.02
2006-07	64.58	66.21	1.03
2007-08	67.72	69.67	1.03
2008-09	66.42	63.43	0.96
2009-10	64.64	60.97	0.94
<b>Average</b>	<b>68.05</b>	<b>68.93</b>	<b>1.01</b>

Source: Computed figure

It is inferred that the percentage share of Dindigul district in Tamil Nadu's production of garlic ranged between 60.97 per cent and 70.52 per cent during the study period. The share of Dindigul district in Tamil Nadu was maximum of 79.80 per cent during the study period 2000-01.

The average garlic production of Dindigul district to that of Tamil Nadu stood at 68.93 per cent.

Table 4 also shows that the share of Dindigul district in Tamil Nadu's garlic productivity ranged from 0.94 to 1.07 times during the period under study. The average productivity of garlic in Dindigul district to that of Tamil Nadu stood at 1.01 times.

### Conclusion

Garlic is an important spice now being used extensively in pharmaceutical preparations

and cooking in both raw and value added form the world over. It is cultivated in many countries in the world wherever there exists suitable climate, fertile soil, improved methods of cultivation, irrigation and the like. Garlic is now cultivated extensively in countries like China, India, Egypt, USA, Russia and Korea. China occupies the first position in garlic cultivation in terms of area and production and third position in terms of productivity followed by India occupying the second position in terms of area and production and sixth position in terms of productivity. The average share of India in garlic cultivation in the world in production is 5.08 per cent. In India, Gujarat leads in production. In Tamil Nadu, production had both increasing and decreasing trend during the study period. Tamil Nadu's average share in garlic cultivation in India in production is 0.47 per cent. In Dindigul district, the study area, it's average production of garlic during the

study period was 2080 tonnes per hectare. Dindigul district ranks first in production. Dindigul district, the study area has all possibility to increase production if new technologies in agriculture, labour saving and new techniques are used.

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