

## Growth Trends of Major Vegetables in Visakhapatnam District of Andhra Pradesh

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### ABSTRACT

The study examined the trends in growth rates of major vegetables in Visakhapatnam district and reveals that the compound growth rates of area for Tomato and Onion were negative. Bhendi exhibited the highest growth rate in area and production where as productivity registered highest in case of Onion. It may be inferred that area is the main guiding force directing the production in Brinjal, Bhendi and Chillies. However, increase in productivity reflected through technological innovation can be used to delimit the area constraints.

**Keywords:** Growth Trends, Vegetables.

India is a vast country with varied agro climatic conditions that are conducive to grow large array of horticulture crops. In the recent years, India has made substantial progress in the horticultural crops. Horticultural crops are grown in about 12 million hectares, which is seven per cent of India's total cropped area. Vegetable production is steadily increasing through out the world with a growth rate of 5.15 per cent. These gains have been maximum in developing countries, the growth rate and productivity being 6.77 and 1.08 percent per year over the past few decades. India contributes 9.33 percent and 12.22 per cent of global fruit and vegetable production and is the second largest producer of fruits and vegetable in the world. Production of fruits and vegetables recorded a compound growth rate of 23 per cent and 19.62 per cent respectively during 1991-92 to 1999-2000. Hence, in order to assess the progress and performance of vegetables in Visakhapatnam district the present study has been undertaken to examine the trends in area, production and productivity of five major vegetables in Visakhapatnam district.

### MATERIAL AND METHODS

The study is entirely based on secondary data. The data with regard to area, production and productivity of vegetables for Visakhapatnam district were collected from various secondary sources.

The period of study for examining the trends in growth of selected vegetables was confined to the total duration of 10 years viz., 1996 to 2005. For studying the trends in the area, production and productivity of vegetables, the compound growth rates were worked out using the semi log function of the form (Rahane, 2000):

$$Y_t = \text{Exp}(a + b_t)$$

or

$$\text{Log } y_t = (a + b_t)$$

Where,  $Y_t$  = dependent variable  
(area or production or productivity)

$t$  = independent variable time

$a$  = constant

$b$  = coefficient

Compound growth rates were worked out as follows:

Compound growth rate (r) =  $(e^{b-1}) * 100$

Student 't' test was used to test the significance of the compound growth rates.

### RESULTS AND DISCUSSION

The compound growth rates of area, production and productivity of five major vegetables are presented in the table. It is revealed from the table that the compound growth rates of area, production and productivity of tomato were - 0.697, 2.109 and 2.825 respectively. The area registered a negative significant growth rate at 5 percent where as production and productivity showed a positive but non-significant growth rates. So there was no significant increase in area, production and productivity of tomato in Visakhapatnam district.

For brinjal all the three attributes exhibited a positive significant trend recording 4.196, 8.175, and 3.819 respectively at 1 percent level. The increase in production of brinjal was due to increase in area coupled with productivity.

Bhendi exhibited a positive growth trends for production and productivity at 10 percent, 5 percent and 1 percent level of significance respectively. The increase in production of bhendi was due to increase in area and productivity. For chillies all the attributes showed a positive non-significant trend which recorded 2.975, 3.426 and

Table : Growth trends of five major vegetables in Visakhapatnam district of Andhra Pradesh (1996-2005).

S.No.	Vegetable	Area	Production	Productivity
1	Tomato	-0.697** (0.713)	2.109 (1.43)	2.825 (2.23)
2	Brinjal	4.196*** (2.49)	8.175** (4.43)	3.819* (6.74)
3	Bhendi	13.231* (5.39)	15.733 (7.88)	2.209** (3.76)
4	Chillies	2.975 (0.99)	3.426 (1.07)	0.438 (0.41)
5	Onion	-3.113 (1.19)	1.579 (0.50)	4.842** (3.41)

(Figures in the parentheses indicate standard errors)

\*\*\* Significant at 1 per cent level

\*\* Significant at 1 percent level

\* Significant at 1 percent level

0.438 respectively. Onion exhibited a positive trend in production with a significant productivity trend.

Inter vegetable variations in growth rates had indicated positive significant rates in area for Brinjal and Bhendi where as negative growth rates exhibited by tomato (Saraswat, 1984). As far as production is concerned, relatively high and significant growth rates were achieved in Brinjal and Bhendi. Productivity has shown significant growth rates in case of Brinjal, Onion and Bhendi.

### Conclusions

Taking the perspective that production is function of area and productivity, it can be concluded that positive growth rate in vegetable production were registered in the district under study. Tomato and Onion had positively high growth rates of productivity which nullifies a negative growth of area to give a positively significant trend in production (Tomer, 1989).

From the foregoing discussion it may be inferred that area is the main guiding force directing

the production in Brinjal, Bhendi and Chillies. However increase in productivity reflected through technological innovation can also be used to delimit the area constraints (Rahane, 2000).

### LITERATURE CITED

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