

Growth and instability of chickpea production in Vidarbha region of Maharashtra

SONAL GAJBHIYE, R.N. WANKHADE AND S.J. KAKDE

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ABSTRACT

Chickpea (*Cicer arietinum* L.) commonly known as 'gram' or "Bengal gram" is the most important pulse crop of India. . The present study is an attempt to evaluate the growth and instability of important crop *i.e.* chickpea. For the present study Vidarbha region of Maharashtra state was chosen .The study was base on secondary data pertained to the year 1980-81 to 2007-08. The results revealed that the growth rates for area and production of chickpea were found significant. Instability studied in chickpea indicated that productivity under chickpea exhibited less variation. It means that production of chickpea over the period has been almost constant. With this view it is necessary to study the growth and instability of chickpea production in Vidarbha region of Maharashtra.

Key words : Chickpea, Instability of chickpea

Pulses are a wonderful gift of nature as they nourish mankind with highly nutritive food and keep the soil alive and productive. On account of these virtues, pulse crops remain an integral part of the sustainable agriculture production systems of the semi-arid tropics.

Chickpea (*Cicer arietinum*) is one of the most important pulse legumes not only in Vidarbha but also in many parts of the world. India is largest producer and consumer of chickpea in the world, sharing 65 and 70 per cent of the total global area and production, respectively. However, productivity of chickpea in India is quite low.

As legumes are important component of the average diet, they are much in demand but are short in supply due to low productivity and low production. With this view, it is essential to study the growth and instability of chickpea production in Vidharba region of Maharashtra. Objectives of the present study were to study the growth rates of area, production and productivity of chickpea in Vidarbha region of Maharashtra and to study the degree of instability in area, production and productivity of chickpea in Vidarbha region of Maharashtra.

METHODOLOGY

The study covers a 28-year period of study predominantly based on secondary data pertains to the year 1980-81 to 2007-08. Data on area, production and

productivity of chickpea were collected from various issues of epitome of agriculture. The entire study was split into two sub periods. The sub period was framed as period I- 1980-81 to 1993-94, period II- 1994-95 to 2007-08, Overall 1980 – 2008. In order to study the instability in area and productivity which are the major sources of production instability, the Coppock's instability index, coefficient of variation was estimated for the study period.

Estimation of growth rates:

The growth rates in area, production and productivity were studied estimating compound growth rates at different periods. Both linear and compound growth rates were estimated. However, finally the compound growth rate was used for the study.

The growth rate was estimated using exponential trend model.

$$Y = a \cdot b^t$$

where,

Y = Area / production / productivity

a = Intercept

b = Regression coefficient

t = Time variable

From the estimated function the compound growth rate was worked out by,

$$CGR (r) = [\text{Antilog} (\log b) - 1] \times 100$$

where,

r = Compound growth rate

The degree of instability in area production and productivity of chickpea in different period was measured using coefficient of variation and coefficient of instability

Correspondence to:

SONAL GAJBHIYE, Department of Agricultural Economics, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, AKOLA (M.S.) INDIA

Authors' affiliations:

R.N. WANKHADE AND S.J. KAKDE, Department of Agricultural Economics, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, AKOLA (M.S.)