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Abstract

Cotton is a part of our daily lives from the time, we dry our faces on a soft cotton towel in the morning till we slide between fresh cotton sheets at night. It has hundreds of uses. Cotton is vital textile raw material, has an important role in the industry and trade of both, own country and the world with various areas for usage. This paper focuses on the growth economics of cotton cultivation in Gujarat.

Keywords: economics, cotton, cotton cultivation

Indian cotton production has been concentrated in the western half of the country and can be broadly divided in to three major regions. The major regions based on climatic differences and the regional heterogeneity in the availability water and other natural resources, that affects the mix of crops in the various parts of the country. These are as the Northern Regions, the Central Regions and the Southern Regions. From the classification of regions northern regions covers the states of Haryana, Punjab and Rajasthan, the central regions covers Maharashtra, Gujarat and Madhya Pradesh, while southern region covers Karnataka, Tamilnadu and Andhra Pradesh.

Definition of Cotton : In scientific terminology cotton is known as "GOSSYPIMUM SPP." According to the definition available in 14th century," cotton is a soft, down substance, resembling fine wool consisting of the unicellular twisted hairs, which grow on the seeds of cotton plant".

Cotton is also known as follows.

Any of various shrubby plants of the genus gossypium, having showy flowers and grown for the soft white downy fibers surrounding oil rich seeds.

The fiber of any of these plants, used in making textiles and other products.

Importance of cotton crop : Cotton is a part of our daily lives from the time, we dry our faces on a soft cotton towel in the morning till we slide between fresh cotton sheets at night. It has hundreds of uses. Cotton is vital textile raw material, has an important role in the industry and trade of both, own country and the world with various areas for usage. The rapid increase in the world population and in the living standards of the industrializing and developing countries has also increased the cotton consumption and the need for it. Cotton seed, a raw agricultural produce, that was once largely wasted, is now converted in to food for people, feed for livestock, and fertilizer for plants. Cotton plays significant role in the economic development in India. Cotton provides employment to about Six crore people directly or indirectly. About 75 per cent of raw material provided by Cotton, to the textile industry in India. About One third of foreign exchange are earning by cotton and textile industry together. Across the total cultivated land of the World, about 25 per cent of cultivated land is used for cotton crops. Out of it India is

at first position in geographical area, while second in production. Recent trends show that Gujarat has more area under cultivation of non-food crops. The changing pattern of food crops to non food crops may be good for farmers as they are receiving good returns from that.

Cotton Cultivation in India

Table 1 - Yearwise Cotton Production

Year	Area(In Lakh Ha)	Production (In Lakh Bales*)	Productivity (Kg/Ha)
1	2	3	4
1960	72.95	36.78	86
1970	77.31	52.55	122
1980	90.78	76.98	162
1990	76.95	114.00	252
2000	81.48	153.00	319
2010	111.42	325.00	496

Source: Cotton Advisory Board.

*1 bale = 170 Kg.

In the above table data about decadal change in area under cotton crop cultivation in Lakh Hectors, Production in Lakh bales and productivity in Kilogram per Hector is presented for India. In first column from the year 1960 to 2010 numbers of years are selected to show the trends in area, production and productivity of cotton crop in India. In the decade of 1960, figure for Area under cultivation of cotton crop was estimated to 72.95 Lakh hector, it increases up to 77.31 Lakh hector in a decadal change, and turns out in to increase of 4.36 Lakh hector.

Similarly, for the decade of 1980 Area under cultivation of cotton crop was 90.78 Lakh Hector and this figure turns out for the next decade of 1990 to 76.95 Lakh Hector. The above data can be interpreted as there is a tremendous increase in the area under cultivation of cotton crop in the decade of 1970 to 1980, and it can be seen that there is an increase of 13.47 Lakh Area under cultivation of cotton crop. But then after for the next decade of 1990 there is a significant decrease in the area under cultivation of cotton crop and it turns out to 13.83 Lakh Hector. The reason behind it is the trend of farmers from Non-food crop to food crop cultivation.

Then after for the decade of 2000 and 2010 there is a steady increase in the area under cultivation of cotton crop. These figures turn out to 81.48 and 111.42 Lakh Hectors respectively. In the third column of the table, production of the cotton crop is given in Lakh bales. Here



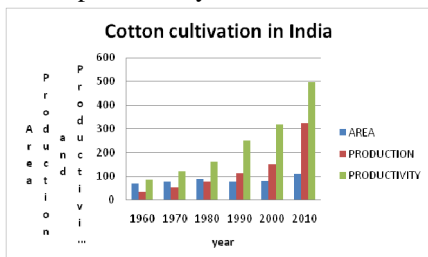
it should be noted that one bale is equal to 170Kg.

The figure for production of cotton is continuously increases, which shows the input use efficiency used by farmers for the crop. For the decade of 1960 the production of cotton crop was 36.78 Lakh bales, it increased to 52.55 Lakh bales in the year 1970. It indicates us that there is increase of 15.77 Lakh bales (Approximately 2680.90 Kg) during the tenure of ten years. For the next decade the data of production turns out to 76.98 Lakh bales and indicate us that there is increase of 24.43 Lakh bales in comparison to previous decade.

While for the decade of 1990 the figure of production turns out to 114.00 Lakh bales and shows that there is third highest increase in the production of 37.02 Lakh bales for this decade. This figure continuously increases for the next two decade and turns out to 153 and 325 Lakh bales respectively. It indicates that there is increase of 39 Lakh bales and 172 Lakh bales for the decade of 2000 and 2010. For the decade of 2010 increase of 172 Lakh bales is the highest increase in the history of the production of cotton in India. The reason behind is that, in the year of 2000 and then after the introduction of BT cotton plays significant role in the increase of production of cotton in India. Area under cultivation of BT cotton continuously increased because of the success in the production and yield of the crop.

In the last column of the table, decade wise a trend in productivity of cotton crop is given in Kilo gram per hector. For the decade of 1960, the productivity of cotton crop was 86 kilo gram per hector. It increased to 122 kilo gram per Hector in the decade of 1970. It can be interpreted as there was increase of 36 kilo gram per hector. For the decade of 1980, 1990 and 2000 this figure turns out to 162, 252, 319 kilo gram per hector respectively and it indicate us that there is increase of 40, 90 and 67 kilo gram per hector in the productivity of cotton crop. Again it is the good indicator of input use efficiency and scientific approach adopted by farmers for the cultivation of cotton crop.

If we look at the data of productivity for the decade of 2010, it was 496 that means almost 500 kilo gram per hector. This is about five times higher than the decade of 1960. It was possible in India mainly due to the introduction of Bt. Cotton in the year of 2000. Bt. Cotton increased the production and productivity of cotton dramatically.



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means that there is positive correlation between area and production. It implies that if area under cultivation of cotton increases the level of production is also increases. The correlation between area and productivity is 0.804025. it means that there is positive correlation between area and productivity. It means that there is positive correlation between area and productivity. It implies that if area under cultivation of cotton increases the level of productivity is also increases.

Cotton Cultivation in Gujarat

Table 2 - Area under cultivation of cotton crop in Gujarat:

Year	Area (In Lakh Ha)
1960	17.10
1970	16.47
1980	17.17
1990	12.81
2000	15.78
2010	26.33

Source: Cotton Advisory Board.

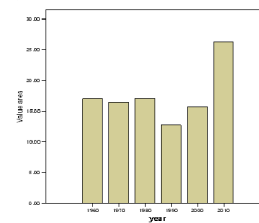
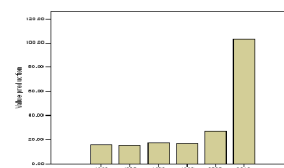


Table 3 - Production of cotton crop in Gujarat

Year	Production (In Lakh Bales*)
1960	15.96
1970	15.52
1980	17.85
1990	17.00
2000	27.00
2010	103.00

Source: Cotton Advisory Board.

*1 bale = 170 Kg.



Productivity of cotton crop in Gujarat : In India by productivity we mean the production of agricultural goods per unit of an input. Productivity is actually a measure of the efficiency of inputs in a given sector. Production growth rate in agriculture is largely dependent upon productivities of two, namely land productivity and labour productivity. Measurement of these two productivities in agriculture is extremely important. Because land under cultivation more or less remains fixed for a country and natural and climatic conditions limits the total production. Production in agriculture can be increased by improving the land and labour productivities. By land productivity we mean that total agricultural output divided by total land

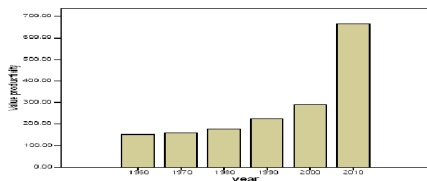


under cultivation. By labour productivity we mean that total agricultural output divided by numbers of labour engaged. Land productivity and labour productivity in India are analyzed to be significantly lower than many countries of the world. In terms of land productivity, the total area under cultivation for various crops is comparatively higher. As well as the total production is also significant, but the productivity is lower.

Table 4 - Productivity of cotton crop in Gujarat:

Year	Productivity (Kg/Ha)
1960	153.00
1970	160.00
1980	177.00
1990	226.00
2000	290.00
2010	665.00

Source: Cotton Advisory Board.



In the above table decadal change in productivity of cotton crop in Gujarat state is given. In the decade of 1960 productivity of cotton crop was 153 Kg/Ha. It increased by 160 Kg/Ha in the decade of 1970. That means there was increase of 7 Kg/Ha. In the decade of 1980, productivity of Cotton crop increased by 177 Kg/Ha, it shows us the decade by decade there is significant increase in it. While

for the decade of 1990 the decadal change in productivity is quite high then previous three decades and was increased by 49 Kg/Ha. Again for the decade of 2000 it was 290 Kg/Ha and there was increase of 64 Kg/Ha. But it can be clearly seen from the table that after the decade of 2000, the productivity of cotton crop in Gujarat increased dramatically by 665 Kg/Ha, and the all credit goes to Genetically Modified seeds of Cotton, Known as BT. Cotton. It results in to the highest producer of the cotton crop among the entire Country.

Conclusions :From the above analysis of the data available for the area, production and productivity for the cultivation of cotton crop in Gujarat, it can be said that the trends of each is moving upwards and it makes the state of Gujarat a number one state in the above factors. The resources available for the agricultural practices as well as the attention given by the government of Gujarat towards the upliftment of the agriculture sector are magnificent. The irrigation facilities, new improved seeds made available to them to increase the area, production and productivity of the crop.

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