

Shifting area from major cereal crops to other crops in Saurashtra and Kutch in Gujarat

R. L. YADAV¹ AND A. D. KALOLA²

Department of Agricultural Statistics, B. A. College of Agriculture,
Anand Agricultural University, Anand- 388110 (Gujarat)

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ABSTRACT

The present study was made to examine the shift in area of major cereal crop in last five, five year plan periods (VIIIth : 1992-93 to 1996-97 to XIIth : 2012-13 to onwards) in Saurashtra and Kutch zone. In order to calculate shift in area, average area of eighth five year plan was taken as base and percentage change was worked out for successive five year plans for different crops. For the horticultural crops the average area of tenth five year plan was taken as base, due to unavailability of data for previous plans. The data on area of major cereal crops from 1992-93 to 2013-14 and for horticultural crops 2002-03 to 2013-14 were collected from Directorate of Agriculture, Gujarat state, Gandhinagar. Five year plan period wise shift in area of major cereal crops of Saurashtra and Kutch zone was calculated and the results showed that most of the cereal crops like rice, wheat, sorghum and bajra were sown 36.36%, 18.60%, 64.35% and 19.60% respectively decrease in area over VIIIth five year plan. The area of all the cereals were continuously decreased in XIIth plan and the area of cotton and horticultural crops (flowers, spices, and fruit crops) were continuously increased after Xth plan. It means the farmers switched over to the crops like cotton and horticultural crops, especially flower and spices crops from cereal crops in Saurashtra and Kutch zone.

Key words: Shifting area, five year plan, cereal, horticultural

Important crops of Gujarat state are groundnut, castor, mustard, wheat, cotton, tobacco, paddy, sorghum, pearl millet, maize, isabgul, cumin, sugarcane, red gram and gram. In 2012-13, in Gujarat state production of rice was 14.79 lakh tonnes and the production of maize was 7.90 lakh tonnes, the productivity of rice during the period was 2136 kg/ha and the productivity of maize was 1727 kg/ha (Anonymous, 2012-13). Area shift towards high value commercial crops is vital for increasing farm income, productivity and overall employment in the agricultural sector. Several economic (price and income) and non-economic (food-security concerns) factors influenced farmers decisions at the farm level. Saurashtra & Kutch zone ; Amreli, Bhavnagar, Botad, Devbhumi Dwarka, Gir Somnath, Jamnagar, Junagadh, Morbi, Porbandar, Rajkot, Surendranagar, and Kutch included for the study. It has been shown that higher food requirements at home inhibit the extent of crop substitution decision

of the farmers. However, farmers are less responsive to the changes in the prices of food grains (in terms of changing their consumption) as higher income from high-value crops provide adequate money to purchase food crops from the market. Their capacity to generate higher productivity along with better market prospects have been recorded to explain the decision of shift in area of traditional low value crops .

MATERIALS AND METHODS

The data on area of major cereal crops from 1992-93 to 2013-14 and for horticultural crops 2002-03 to 2013-14 were collected from Directorate of Agriculture, Gujarat state, Gandhinagar. An attempt was also made to examine the shift in area of major cereal crop in last five, five year plan periods (VIIIth to XIIth). In order to calculate shift in area, average area of VIIIth five year plan was taken as base and percentage change was worked out for successive five year plans for different crops. For the horticultural crops the

¹ PG Student, ² Associate Professor

average area of Xth five year plan was taken as base, due to unavailability of data for previous plans.

RESULTS AND DISCUSSION

Five year plans period wise shift in area of major cereal crops for Saurashtra and Kutch zone

In order to calculate shift in area, average area of eighth five year plan was taken as base and percentage change was worked out for successive five year plans

for different crops. For the horticultural crops the average area of Xth five year plan was taken as base, due to unavailability of data for previous plans. Five year plan period wise shift in area of major cereal crops of Saurashtra and Kutch zone was calculated and the results are presented in Table 1. The results revealed that the most of the cereal crops like rice, wheat, sorghum and bajra were sown 36.36%, 18.60%, 64.35% and 19.60% decrease in area over VIIIth five year plan. Area of total cereals decreased

Table 1 Five year plans period wise shift in area under major cereal crops for Saurashtra and Kutch zone for the period of 1992-93 to 2013-14

Crops	Five year plans wise average area (Lakh ha.)				
	VIII th (1992-93 to 1996-97)	IX th (1997-98 to 2001-02)	X th (2002-03 to 2006-07)	XI th (2007-08 to 2011-12)	XII th (2012-13 onwards)
Rice	0.011	0.007 (-36.36)	0.006 (-14.28)	0.007 (+16.66)	0.003 (-57.14)
Wheat	1.72	1.40 (-18.60)	2.02 (+44.28)	4.59 (+127.22)	2.97 (-35.29)
Maize	0.088	0.104 (+18.18)	0.061 (-41.34)	0.084 (+37.70)	0.032 (-61.90)
Sorghum	2.02	0.72 (-64.35)	0.40 (-44.44)	0.42 (+5.00)	0.18 (-57.14)
Bajra	5.56	4.47 (-19.60)	3.49 (-21.92)	2.25 (-35.53)	1.20 (-46.66)
Total Cereals	9.40	6.71 (-28.61)	5.97 (-11.02)	7.36 (+23.28)	4.46 (-39.40)
Cotton	7.06	9.36 (+32.57)	10.39 (+11.00)	15.84 (+52.45)	17.47 (+10.29)
Total Oilseeds	20.22	21.11 (+4.40)	22.27 (+5.49)	20.60 (-7.49)	17.43 (-15.38)
Groundnut	18.24	17.47 (-4.22)	18.59 (+6.41)	17.19 (-7.53)	12.97 (-24.54)
Total Pulse	1.85	1.89 (+2.16)	1.58 (-16.40)	2.12 (+34.17)	2.06 (-2.83)
Flower	-	-	0.006	0.012 (+100.00)	0.0178 (+48.33)
Spice	-	-	2.11	2.72 (+28.90)	3.18 (+16.91)
Vegetable	-	-	1.54	1.47 (-4.54)	1.46 (-00.68)
Fruit	-	-	0.91	1.07 (+17.58)	1.22 (+14.02)
Total Horti.	-	-	4.57	5.27 (+15.31)	5.87 (+11.38)

Note : Values in parenthesis indicate percent change in area over previous five year plan period

by 28.61%, while area of cotton crop was increased by 32.57% in IXth plan over VIIth plan. It clearly indicates that there was shift in area from cereal crops to cotton crops. Tenth five year plan was witnessed of decrease in area under all *kharif* cereal crops. Maximum decrease was found in sorghum (44.44%) followed by maize (41.34%) crop. Cotton crop had considerable increment in area (11.00%) due to introduction of Bt cotton. Area of total cereals and total pulses was decreased in Xth plan by 11.02% and 16.40% respectively, over IXth plan. It indicates the shift of area in cotton crop. There was increment in area of all cereal crops except bajra crop in XIth plan over tenth plan. There was increment in area of wheat by 127.22%, of rice by 16.66%, of maize by 37.70% in XIth plan. Cotton crop showed considerable increment in area by 52.45%, while area of total oilseeds and groundnut decreased. Area under total horticultural crops was increased by 15.31% in XIth plan but area of vegetable crops was decreased by 4.54% over Xth five year plan. Almost all the cereals lost nearly half of their area in XIIth plan over eleventh plan. Area of rice, wheat, maize, sorghum and bajra was decreased by 57.14%, 35.29%, 61.90%, 57.14% and 46.66% respectively. There was increment in area of cotton crop by 10.19% in XIIth. Horticultural crops have increment in area (11.38%) over eleventh plan. It is cleared from analysis that area of all the cereals was continuously decreased in XIIth plan and the area of cotton and horticultural crops (flower, spice, and

fruit crops) was continuously increased after tenth plan. It means the farmers switched over to the crops like cotton and horticultural crops, especially flower and spice crops from cereal crops in Saurashtra and Kutch zone. Sabesh *et al.* 2014 studied that Bt. cotton has brought a new cropping pattern and large scale shift in cotton cultivation has taken place in Vidarbha, Eastern Marathwada and Khandesh region in Maharashtra.

CONCLUSION

Five year plans period wise shift in area under major cereal crops was examine for the period of 1992-93 to 2013-14. Area of the major cereal crops was found decreasing after XIth plan. At the same time area of cotton and horticultural crops was found increasing.

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