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RESEARCH NOTE

A study on dynamics of trends in area, production and productivity of groundnut in Karnataka

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Abstract: Groundnut (*Arachis hypogaea* L.), is a leguminous crop which is widely cultivated in the tropical and sub-tropical areas, it is also an important oilseed crop in India which occupies first position in terms of area and second position in terms of production in the world. The study attempts to examine the growth in area, production and productivity of ground nut in Karnataka for the period from 2009-10 to 2018-19. The results indicated the negative growth in area and production while with productivity there was a positive growth rate. The government needs to emphasize the importance of cultivation of groundnut so that the area under the groundnut will not decrease.

Key Words: Decrease, Dynamics, Growth rate

Agriculture is one of the most significant activities in both developed and developing countries since it provides basic raw materials to agro-based enterprises and source of food. It remains the backbone of the Indian economy, accounting for 19.90 per cent of GDP and 17.34 per cent of the country's export value (2020-21). It is also a strong antidote to poverty and unemployment. In a country where agriculture is the primary source of income, it is critical to modernize the country's age-old agricultural practices. Agriculture's transition into a dynamic business proposition is essentially a techno-economic process that can be speed up by providing farmers with a conducive environment. Groundnut (*Arachis hypogaea* L.), is a leguminous crop which is widely cultivated in the tropical and sub-tropical areas, it is also an important oilseed crop in India which occupies first position in terms of area and second position in terms of production in the world. China was the largest producer as well as consumer of groundnut in the world with 17.39 m. tonnes, followed by India (6.70 m. tonnes), Nigeria (2.89 m. tonnes), Sudan (2.88 m. tonnes) and Myanmar 1.60 m. tonnes. Although in various states of India, groundnuts were cultivated in one or more (*Kharif, Rabi* and *summer*) seasons, nearly 80 per cent of acreage and production comes from *kharif* crop (June-October). Groundnut were mainly grown in five states *viz*., Andhra Pradesh, Gujarat, Tamil Nadu, Karnataka and Maharashtra and together they account for more than 90 per cent of the crop's total area. The states Andhra Pradesh and Gujarat, account for more than half of the cultivated area. Andhra Pradesh and Gujarat states share 28 per cent and 24 per cent of the total groundnut area respectively in the country. Tamil Nadu and Karnataka share about 15 per cent each of the total. The area of groundnut in Karnataka state was 5.41 lakh hectares (2018-19). Chitradurga district was the top region by groundnut area in Karnataka. As of (2018-19), groundnut area in Chitradurga district was 0.75 lakh hectares that accounts for 13.87 per cent of Karnataka's groundnut area of cultivation. The top other five regions were Tumkur, Ballari, Gadag, Raichur and Yadgir account for 44.34 per cent of Karnataka's total groundnut production was estimated at 3.96 lakh tonnes in 2018-19 (Anon, 2018).

The study is entirely based on the secondary data of area, production and productivity of groundnut for the period of 2009-10 to 2018-19. The major growing districts of groundnut in Karnataka were selected for the study. The data pertaining to the area, production and productivity was obtained from the published sources of Directorate of Economics and Statistics, Government of Karnataka. The research was conducted in the Department of Agribusiness Management, UAS Dharwad during the year 2019 to 2021. The data regarding arrivals and prices of groundnut was collected from web portal of krishimaratavahini for the period from 2011-12 to 2020-21. The selections of the markets were made on the basis of three years arrival average. The markets which were selected for the study were Yadgir, Raichur, Hubballi, Challakere and Laxmeshwar. In order to arrive at the meaningful results, following statistical tool was employed for the study that is regression analysis and descriptive analysis such as Arithmetic mean and Coefficient of variation.

The trends in area, production and productivity of groundnut in Karnataka for the study period 2009-10 to 2018-19 are presented in Table 1. The area under the crop which was 8, 17,550 hectares in the year 2009-10 had decreased to 5, 41,121 hectares registering the negative growth rate of 4 per cent per annum. While production which was around 4,57,353 tonnes in the year 2009-10 had decreased to 3,96,691 in the year 2018-19 registering a negative growth rate of 0.73 per cent. Interestingly, the another parameter that was productivity which was 559.42 kg per hectare in the year 2009-10 had increased to 733.09 kg per hectare in the year 2018-19 with the annual growth rate of 3.40 per cent per annum. During the study period average area was found to be 6, 58,039.50 hectares, 4, 80,386.40 tonnes of production and

Table 1. Trends in area, production and productivity of groundnut in Karnataka (2009-10 to 2018-19)

Year	Area (ha)	Production (Tonnes)	Productivity (kg/ha)
2009-10	817,550	457,353	559.42
2010-11	845,752	600,339	709.83
2011-12	677,644	437,337	645.38
2012-13	588,870	395,170	671.06
2013-14	654,919	565,374	863.27
2014-15	653,894	501,768	767.35
2015-16	570,085	394,771	692.48
2016-17	665,709	418,723	628.99
2017-18	564,851	636,338	1,126.56
2018-19	541,121	396,691	733.09
Mean	658,039.50	480,386.40	739.74
CAGR (%)	-4.00 **	-0.73 NS	3.40 NS

Source: Area and Production Statistics (APS), Ministry of Agriculture and Farmer's Welfare, Government of India.

Note: **Significant at 1 per cent, NS: Non-significant

Table 2. Variations in arrivals and prices of groundnut in major markets of Karnataka (2011-12 to 2020-21)

Markets	Arrivals (qtl)			Prices (₹)		
	Mean	Standard deviation	CV (%)	Mean	Standard deviation	CV (%)
Yadgir	47916	97491.74	203.46	3236.65	1716.47	53.03
Raichur	14454.30	22223.17	153.75	4166.08	803.72	19.29
Hubballi	9862.98	18600.69	188.59	3626.05	751.30	20.72
Challakere	8154.53	11037.94	135.36	4244.85	984.05	23.18
Laxmeshwar	6979.90	8406.83	120.44	3898.50	666.33	17.09

Source: www.krishimaratavahini.kar.nic.in. (Online Agricultural Marketing Information System)

739.74 kg per hectare, respectively. The reason behind the decrease in area was due to farmers were shifting the cropping pattern from groundnut to the commercial crops such as tobacco and cotton. Along with this, majority of the farmers were growing maize instead of groundnut, since maize was the crop which was having constant demand and stable price as it was widely used for the feed for poultry. Maize was the crop which was having less infestation to the pests which was also another reason for which farmers had shifted from groundnut. Even though, the area under the groundnut crop was decreasing but the productivity was increasing which was mainly due to the new high yielding varieties that had been cultivated in the state. Recently, the new variety that was released ICGV 06189 which came with superior pod and kernel features, higher pod yield, higher seed mass and low oil content preferred for confectionery varieties. Table 2 presented the variations in arrivals and prices of groundnut in major markets of Karnataka for the study period 2011-12 to 2020-21. As depicted from the table five major markets selected that were Yadgir, Raichur, Hubballi, Challakere and Laxmeshwar. Average arrivals during the study period for Yadgir market was 47916 quintals with the standard deviation of 97491.74. The coefficient of variation was 203.46 per cent. With respect to the Raichur market, average arrivals during the study period registered to 14454.30 quintals with the standard deviation of 22223.17 having the coefficient of variation of 153.75 per cent. The next market that is Hubballi market had an average arrival of 9862.98 quintals during the study period with the standard deviation of 18600.69 having the coefficient of variation to be 188.59 per cent. The groundnut arrivals to the Challakere market had an average of 8154.53 quintals during the study period having the standard deviation of 11037.94 registering the coefficient of variation at 135.36 per cent. The last market that was listed Laxmeshwar had an average arrivals of 6979.90 quintals with the standard deviation of 8406.83 registering the coefficient of variation of 120.44 per cent. The table also depicts the variation in arrivals and prices of groundnut in major markets of Karnataka. With respect to Yadgir market, an average price of groundnut was registered at ₹ 3236.65 per quintal during the study period with the standard deviation of 1716.47 having the coefficient of variation to be 53.03 per cent. The next market that was listed Raichur market, average price was around ₹ 4166.08 per quintal in the entire study period having the standard deviation to be 803.72 with the coefficient of variation registering at 19.29 per cent. In the market Challakere, the average price was around ₹ 4244.85 per quintal with the standard deviation of 984.05 having the coefficient of variation to 23.18 per cent. The last market that was listed was Laxmeshwar market which had an average price of ₹ 3898.50 per quintal in the study period with the standard deviation of 666.33 with the coefficient of variation at 17.09 per cent. With respect to the arrivals as depicted from the table maximum arrivals with the mean value was observed for the marketYadgir which were followed by Raichur, Hubballi, Challakere and Laxmeswhar markets. Maximum variations in arrivals was observed in Yadgir market followed byHubballi, Raichur, Challakere and Laxmeshwar markets. The table also depicted the variations in prices of the groundnut in major markets of Karnataka. Maximum price was observed during the study period for the markets that was Challakere market, which were followed by Raichur, Laxmeshwar, Hubballi and Yadgir markets. A maximum variation in the price during the study period was observed for Yadgir market, which was followed by Challakere, Hubballi, Raichur and Laxmeshwar markets.

Conclusion

The area under the groundnut crop was spurtly decreasing at an increasing rate. Awareness to be created among farmers about the minimum support prices as well assisting them with the various subsidy schemes which may incline towards the expansion of area under the crop.

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