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Trend analysis in groundnut crop in India and Telangana

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Abstract

Groundnut, a vital oilseed crop in India, plays a critical role in the nation's agricultural economy. This study examines trends in the area, production, and productivity of groundnut, focusing on India and Telangana. Using descriptive and tabular analyses, the study identifies significant fluctuations influenced by climatic variability, market dynamics, and policy interventions. The findings highlight the importance of adopting modern agricultural practices and strengthening market linkages to ensure sustainable growth and profitability.

Keywords: Groundnut, cultivation, productivity, market, sustainability, FPO and trend analysis

Introduction

Groundnut (*Arachis hypogaea*), often called the "King of oilseed crops," is a key contributor to global food and economic security. Originating in Brazil, it spread globally during the 16th century, adapting to warm temperate and tropical climates. Groundnut is not only a rich source of protein, oil, and essential nutrients but also supports soil fertility by fixing atmospheric nitrogen. Its diverse uses range from raw consumption and oil production to industrial applications like cosmetics and lubricants.

India is the second-largest producer of groundnut globally, contributing 19% to world production. The country has distinct agro-climatic zones supporting groundnut cultivation, with Gujarat, Rajasthan, and Tamil Nadu leading in production. Telangana, though ranked sixth in production, is significant for its low aflatoxin and high oil-content groundnuts. Despite its importance, groundnut cultivation faces challenges like declining cultivated areas and fluctuating production due to adverse climatic conditions, crop diversification, and high input costs.

This article provides a comprehensive trend analysis of groundnut in India and Telangana, offering insights into production dynamics, factors influencing trends, and strategic interventions required for sustainable cultivation and market growth.

Materials and Methods

This study employed secondary data collected from sources like the Directorate of Agriculture and Farmers Welfare and FAOSTAT. Descriptive and tabular analyses were used to evaluate trends in groundnut area, production, and productivity. Compound Annual Growth Rate (CAGR) was calculated to assess long-term growth patterns. The study focused on India and Telangana, with an emphasis on major producing regions like Gujarat, Rajasthan, and Telangana.

Results and Discussion

Trends in Groundnut Area, Production, and Productivity in India

Groundnut remains a vital oilseed crop in India, with its trends reflecting the interplay between climatic conditions, market dynamics, and technological advancements.

Table 1: Area, Production, and Yield Trends with Percent Changes from 2016-17 to 2022-23

Year	Area (000s Ha)	% Change	Production (000s Tonnes)	% Change	Yield (Kg/Ha)	% Change
2016-17	5338.04	0.00	7461.53	0.00	1398	0.00
2017-18	4887.70	-9.21	9252.57	19.36	1893	26.15
2018-19	4730.76	-3.32	6727.18	-37.54	1422	-33.12
2019-20	4825.20	1.96	9952.02	32.40	2063	31.07
2020-21	6014.95	19.78	10244.08	2.85	1703	-21.14
2021-22	5704.74	-5.44	10134.99	-1.08	1777	4.16
2022-23	4961.18	-14.99	10296.71	1.57	2075	14.36
CAGR	-0.01		0.05		0.06	

Key Observations

- **Decline in Area:** Over the period, the area under groundnut cultivation declined marginally, with a Compound Annual Growth Rate (CAGR) of -0.01%. This trend is attributed to crop diversification as farmers shifted to alternative crops like soybean and cotton, which offer higher profitability. Rising input costs for seeds, fertilizers, and labour further discouraged groundnut cultivation.
- **Stable Production:** Despite the shrinking area, production remained relatively stable with a positive CAGR of 0.05%. This was due to favourable climatic conditions in certain years and the adoption of improved farming techniques. Notably, production peaked in 2019-20 with a 32.40% increase due to good rainfall and favourable weather.
- **Improved Productivity:** The yield exhibited the strongest growth, with a CAGR of 0.06%, rising from 1398 kg/ha in 2016-17 to 2075 kg/ha in 2022-23. This increase reflects advancements in high-yielding seed varieties, better irrigation practices, and improved pest management.

Trends in Groundnut Area, Production, and Productivity in Telangana

Telangana has shown significant fluctuations in groundnut cultivation, particularly in its key districts, Nagarkurnool and Wanaparthy.

Table 2: Area, Production, and Yield Trends with Percent Changes from 2016-17 to 2022-23

Year	Area (000s Ha)	% Change	Production (000s Tonnes)	% Change	Yield (Kg/Ha)	% Change
2016-17	166.00	0.00	342.00	0.00	2060	0.00
2017-18	167.00	0.60	372.40	8.16	2230	7.62
2018-19	126.00	-32.54	313.81	-18.67	2491	10.48
2019-20	111.00	-13.51	265.37	-18.25	2391	-4.18
2020-21	127.00	12.60	290.26	8.58	2286	-4.59
2021-22	155.00	18.06	349.84	17.03	2257	-1.28
2022-23	103.00	-50.49	252.14	-38.75	2448	7.80
CAGR	-2.81		-2.90		1.34	

Key Observations

- **Significant Decline in Area:** The area under cultivation in Telangana fell sharply, with a negative CAGR of 2.81%. The reduction from 166,000 ha in 2016-17 to 103,000 ha in 2022-23 reflects the shift to alternative crops, rising input costs, and adverse climatic conditions.
- **Decline in Production:** Production declined at a CAGR of -2.90%, driven by the reduced cultivated area. However, favourable climatic years, such as 2021-22, saw a temporary recovery.
- **Productivity Gains:** Productivity demonstrated a positive trend, with a CAGR of 1.34%, rising from 2060 kg/ha in 2016-17 to 2448 kg/ha in 2022-23. This reflects the adoption of improved seed varieties, better irrigation systems, and modern farming techniques.

Factors Influencing Trends

The trends in groundnut cultivation in India and Telangana are influenced by a combination of climatic, economic, and technological factors. Climatic variability, including irregular rainfall patterns and frequent droughts, has significantly impacted groundnut cultivation, particularly in rainfed regions. These adverse conditions have led to reduced areas under cultivation and fluctuations in production. Economic factors such as rising input costs for seeds, fertilizers, and labour have further discouraged farmers from cultivating groundnut, prompting a shift to alternative crops like cotton and maize, which are perceived as more profitable and less resource-intensive. Technological advancements, however, have positively influenced productivity. The adoption of high-yielding seed varieties, improved irrigation systems, and better pest and disease management practices have contributed to higher yields even in years of declining cultivated area. Market dynamics, including price volatility and inadequate policy support for groundnut production, have also played a role in shaping cultivation trends. Additionally, limited access to modern farming inputs and weak market linkages have constrained the potential growth of groundnut cultivation in certain regions. These interconnected factors highlight the need for targeted interventions to stabilize and enhance groundnut production.

Conclusion

Groundnut is a vital crop in India and Telangana, but its cultivation faces challenges like declining area, rising input costs, and climate variability. Despite this, productivity has improved due to advancements in seeds, irrigation, and pest management. Telangana mirrors these trends, with reduced area and production but gains in yield. Addressing these challenges through climate-resilient practices, cost reduction, and stronger market linkages is essential. Farmer Producer Organizations (FPOs) can enhance market access and promote value-added products like oil and chikki for better profitability. With targeted policies and public-private partnerships, groundnut cultivation can become more sustainable and profitable, securing farmer livelihoods and food security.

References

1. Directorate of Agriculture and Farmers Welfare. Uttar Pradesh Government. Available from: https://upag.gov.in/. Published 2002.
2. Department of Agriculture, Govt. of Telangana. Available from: https://agri.telangana.gov.in/. Published 2022.
3. FAOSTAT. Groundnut production, 2022-23. Available from: https://www.fao.org/faostat/en/#data/QCL.
4. Rao SS. An overview of FPOs in India. Agribusiness – A Managerial Perspective; c2024. p. 31-45.
5. Zhao X, Chen J, Du F. Potential use of peanut by-products in food processing – A review. J Food Sci Technol. 2012;49(5):521-529.