Recent trends in the production and profitability of black pepper in India

[1] Shabad MK,[2] Dr. Lijo Thomas

[1]Research Scholar, Department of Business Administration and Management (DBAM), Kerala University of Fisheries and Ocean Studies, Kochi, Kerala

[2]Senior Scientist (Agricultural Economics)
ICAR-Indian Institute of Spices Research

Abstract

In India, pepper, also referred to as the "King of Spices," is very important for culture, cuisine, and the economy. Pepper farming has a long history in this country, going back thousands of years. A number of variables, including market dynamics and technical improvements, have had an impact on the profitability and efficiency of pepper farming in India in recent years The Piperaceae family of flowering vines, black pepper (Piper nigrum L.), is prized for its dried berries, or peppercorns, which have been used as a spice and flavouring for centuries and are also renowned for their health advantages. The plant, which is native to the steamy forests of South-Western India's Malabar Coast, is grown all over the world in tropical climates. . The purpose of this article is to investigate these patterns and their effects. This study examines the economics of black pepper cultivation as well as current trends in black pepper production. The study looks at the difficulties pepper producers confront and possible ways to improve the economic viability of growing black pepper. The government and regulatory bodies' reports, which contain secondary data, are taken into account.

Keywords: Black pepper, agriculture, productivity, profitability

Introduction

Often referred to as the "Black gold" and "King of Spices," black pepper is the most important and extensively used spice in the world and holds a distinct and eminent status. The origin of black pepper is Kerala. The majority of the nation's black pepper output and area comes from Kerala. India's agricultural landscape has undergone a paradigm change as a result of the notable and positive trend in the profitability of spice farming. Spices have long been cultivated in India, known as the "Land of Spices," and are essential to the country's cuisine, culture, and economy. This history dates back millennia. Several reasons have contributed to the current resurgence of interest in and investment in pepper farming,

including changing consumer tastes, the need for unique and exotic flavours throughout the world, and increasing awareness of the economic possibilities in the spice industry. Spices have always been essential to Indian cooking, giving a wide variety of foods their unique flavours, scents, and hues. However, Indian spices are now leading the international market due to the recent increase in demand for real, genuine tastes around the world. As a result, growing attention has been paid to spice growing as a profitable and sustainable kind of agriculture. Over the past 10 years, India's spice output has expanded dramatically, and there is unmistakable evidence of an increase in area starting in 2005.The transition of the spice economy from a producer-driven to a consumer-driven one has brought about intense rivalry. In addition to marketing, direct marketing using supermarkets is still popular.

Review of Literature

With 17% of the world's pepper production, India is the second-largest producer in the world, behind Vietnam. Due to rising snack and medication consumption, there has been a sustained growth in the demand for spices on the global market in recent years (Santhosh and Yogish, 2023).The market for spices is driven by the rise in fast food consumption in several nations, including India and Indonesia. The Compound Annual Growth Rate (CAGR) is predicted to rise by 3.1% between 2019 and 2030, meaning that 18 million tonnes of spices will be produced by then. India is a significant producer, consumer, and exporter of black pepper. Indian spices are highly sought after in the international market due to their culinary and therapeutic qualities. One of the most popular spices in the world is black pepper. It is frequently utilised in the culinary and pharmaceutical sectors and is well-known for its strong and distinct flavour (Hammouti et al., 2019). In 2019, Ratish and Dr. Roy carried out "a study on pepper cultivation in Kerala." This work is predicated on secondary data and information that was obtained from a variety of sources, including government reports and the Spice Board, among others. According to this research, Kerala and Karnataka produce the majority of the nation's black pepper. Seventy-five percent of the country's output is attributed to Kerala; from 40.6 tonnes in 2014–15 to 42.1 tonnes in 2015–16, the production showed a small rise. Disease outbreaks on a regular basis, inadequate pest management, inadequate fertiliser, inadequate water supplies, unfavourable weather patterns, and the composition of the soil are the primary issues facing pepper farms.In their paper titled "A Quantitative description of pepper cultivation in Kerala," T.S. Senthilkumar and Swarupa Uma P. (2018) examined part records of production, yield of pepper in India and area, production,

productivity, varieties, and price variations of pepper cultivation in Kerala. They contend that the process of turning black pepper into white pepper is a straightforward one that producers themselves may use to increase the profitability of pepper production. According to Krishnan (2012), pepper entered the nation after the reform. The main obstacle to spice goods being exported is compliance with sanitary and phytosanitary (SPS) regulations. Trade was negatively impacted by other non-technical impediments such as stringent packaging requirements and labelling. Regular alterations to label requirements result in extra expenses for exporters, so restricting their profitability. loss of trading chances in nearly every market as a result of the market's variable stringency degree for various reasons. In his analysis of pepper's performance in the post-globalized era, Magesh (2012) found that fluctuations in productivity rather than area caused volatility in pepper production. A comparative analysis of states that have grown pepper during the past 20 years (1991–2010) revealed an extremely low CAGR of 0.04 percent annually. During the period, Kerala's pepper output stagnated and had negative growth. The variability in pepper productivity was the cause of the production instability. In Karnataka, productivity, area, and production all showed favourable growth rate trends. This resulted from a rise in area rather than output. Tamil Nadu's production growth rates were region-led due to the state's low productivity growth rates. The development of productivity, production, and area were all slowing down in other states as well. Research on the economics of black pepper production in Kerala was conducted by Regeena (2014). This study examined the import and export of black pepper as well as its production in Kerala. She made note of the cultivation plan for peppers in the future. This study is comprehensive in nature and is only based on secondary data on exports, production, and areas that have been supplied for examination by various government offices.

In their 2014 paper, "Technological Change in Black Pepper Production in the Idukki Region of Kerala: A Decomposition Analysis," P. Resmi, L.B. Kunnal, and a few others discuss how technology has changed the production of black pepper. To determine whether there has been a technical shift in the production of black pepper, research was carried out in the district. In this case, the study was conducted using Bisaliah's decomposition model and Cobb-Douglas production functions. The use of human labour and plant protection methods in the case of current types of vines was shown to be positively and significantly significant, with elasticity values of 0.896, 0.041, and 0.058, respectively. In conclusion, it was discovered that the plant protection methods, human work, and age of the vines in the case of MVs were all favourable and significant. Other factors, such as the quantity of vines, manures, and fertilisers used, were not shown to have a statistically significant impact on the output. While the quantity of

vines had a favourable effect on output, the varying manures and fertilisers administered were negatively influencing it.Sharama (2006) investigated the possibility of India's pepper trade returning to its former heyday. After study, he concluded that if all the relevant authorities presented a united front with concerted efforts and workable plans to revitalise black pepper, India could be able to reclaim its former glory in this area. This farmer need direction from institutions such as Agriculture Universities, the Spices Board, and even NGSs.Jeyarani (2006) A significant surge in Vietnam's production in the worldwide production resulted in a fluctuation in the pepper production between 3.5 and 4.0 lakh tonnes, with 2004 recording a production of 3.08 lakh tonnes. Kerala accounted for 90% of India's pepper production, with Karnataka and Tamil Nadu producing the remaining 10%. Traditionally, the United States accounted for half of India's exports of Malabar black, with the Netherlands, Canada, and Italy following. Kochi and Sultan Bathery are Kerala's two main principal marketplaces. In recent times, Delhi, Indore, and Nagpur have emerged as India's principal pepper markets. The reasons were a lack of timely availability of hybrid types and inadequate direction on scientific farming from government authorities.

Research Gap

Copious researchers have demonstrated the importance of the agriculture in our country; however, the majority of these studies have been conducted generally with a dearth of research in the case of productivity and profitability of black pepper. Research on the importance of the production and profitability of black pepper as well as the steps to improve the profitability from the cultivation of black pepper should be conducted.

Statement of the Problem

There is always a struggle to find a balance between the growth of agriculture for the advantage of people, investors, policy makers, and companies, and the protection of the environment, which is also for human benefit. Everyone should understand how important it is to protect our woods, flora, wildlife, soil, and water resources while also promoting the growth of agriculture in all kinds of spices, including black pepper.

Objectives of the Study

1. To find out the present state of productivity of black pepper in India
2. To study the profitability of black pepper in India

Productivity on Global basis

Global view of Area, production and productivity of black pepper						
Country	2019			2020		
	Area	Production	Productivity	Area	Production	Productivity
Brazil	31000	80000	2581	27850	78000	2801
INDIA	**244560**	**137360**	**562**	**259148**	**104071**	**402**
Indonesia	118200	78000	660	116375	78000	670
Malaysia	17477	24000	1373	17437	24000	1376
Sri Lanka	41000	19360	472	40241	21800	542
Vietnam	115000	280000	2435	113142	250000	2210
China	21000	32000	1524	20000	33000	1650
Madagascar	4000	4000	1000	4000	4000	1000
Total	592237	654720	10607	598193	592871	10651

Table-1 Relationship between Area, production and productivity of black pepper – Global view (Source: India- DASD, Other Countries-IPC)

The term "area" describes the entire amount of land used for pepper cultivation. In hectares, this is expressed. The greater the area under cultivation, the more land farmers are allocating to the production of peppers. The term "production" in pepper farming means the total amount of pepper collected in a certain time frame, typically expressed in metric tonnes. Climate, soil, agricultural techniques, and pest control are a few examples of the variables that affect production.Productivity refers to the degree of efficiency with which the land under cultivation is used to produce goods and services. It is computed by dividing the total yield by the cultivated area. A common way to represent productivity is as production in metric tonnes per hectare, or output per unit of land area. More production from a given land area is a sign of higher productivity, which highlights the efficacy and efficiency of farming techniques.

Top Black Pepper Producing Nations

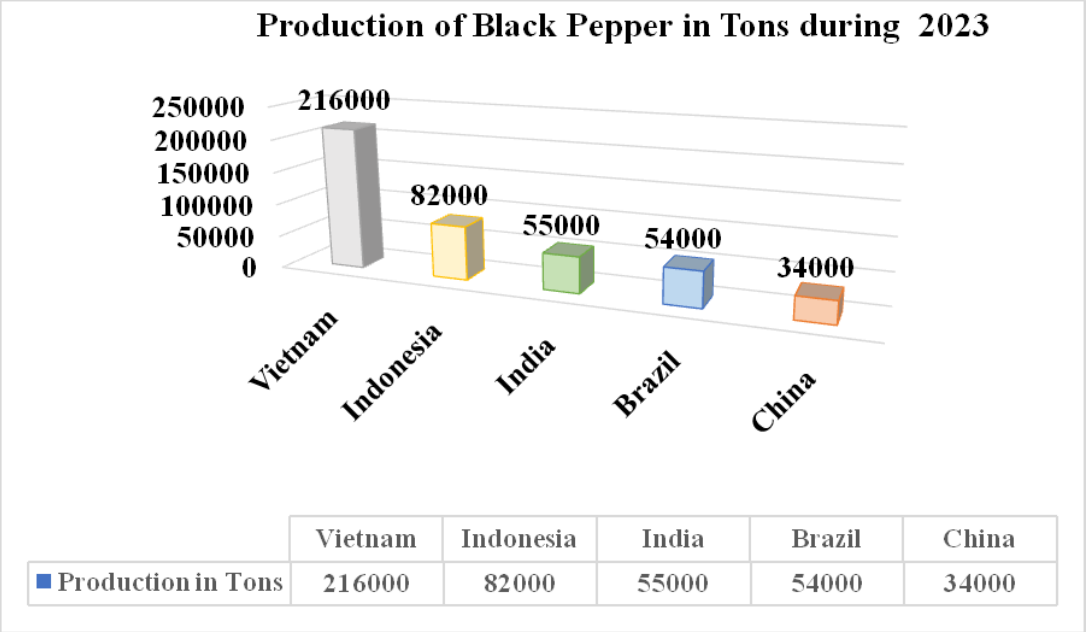

Chart-1 Production of Black Pepper in Tons

The above chart gives the information regarding the major black pepper producing nations. Vietnam stands top (2,16,000 tons) among the top black pepper producing nations, followed by Indonesia (82,000 tons). India is having third position (55,000 tons) followed by Brazil (54,000 tons) and China (34,000).

Productivity of Black Pepper state wise

States	2018-19	2019-20	2020-21	2021-22	2022-23
Karnataka	148379	160770	211497	190000	180000
Kerala	82761	83770	82124	76351	82000
Tamil Nadu	5571	6080	6576	6973	6098
Other States	7498	8528	9138	10638	9952
Total	244209	259148	309335	283962	278050

Table-2 Productivity of black pepper – State wise analysis

(Source: http://www.spicesboard.in/)

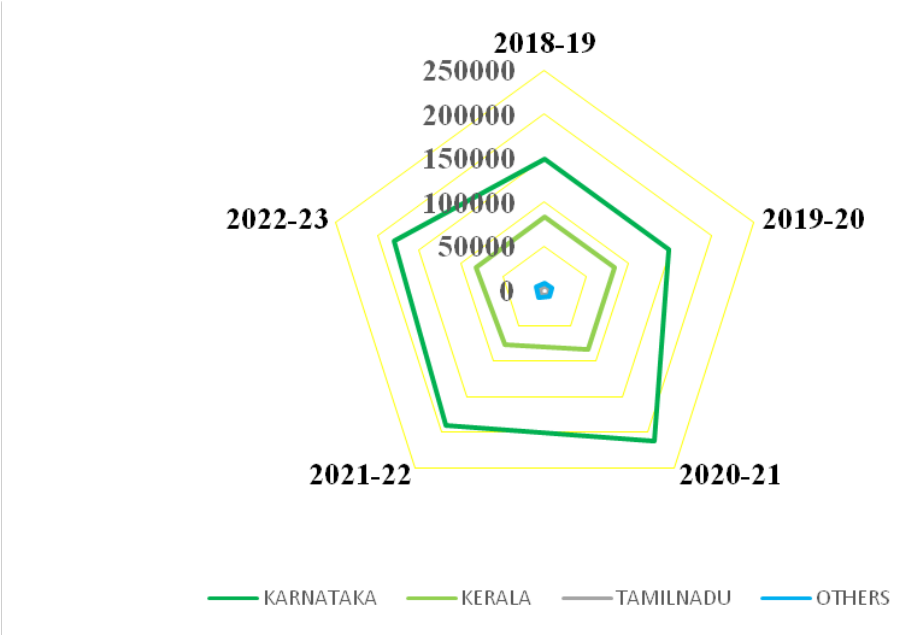

Chart-2Statewise Productivity of Black Pepper

The state wise productivity is given in the above Chart-1. Karnataka ranks first in the production of black pepper for the last 5 financial years, leaving Kerala next to it. The other states has third position. But, the productivity of Tamil Nadu is the lowest for the same period.

Hypothesis Testing and Analysis

The study is conducted using secondary data from websites. From the data obtained study is made on a global basis as well as on the productivity of major black pepper producing states of India. The present productivity of black pepper in India can be understood from the table below.

Rank	Country	Area	Rank	Country	Production	Rank	Country	Productivity
8	Madagascar	4000	8	Madagascar	4000	8	**INDIA**	**402**
7	Malaysia	17437	7	Sri Lanka	21800	7	Sri Lanka	542
6	China	20000	6	Malaysia	24000	6	Indonesia	670
5	Brazil	27850	5	China	33000	5	Madagascar	1000

4	Sri Lanka	40241	4	Brazil	78000	4	Madagascar	1376
3	Vietnam	113142	3	Indonesia	78000	3	China	1650
2	Indonesia	116375	**2**	**INDIA**	**104071**	2	Vietnam	2210
1	**INDIA**	**259148**	1	Vietnam	250000	1	Brazil	2801

Table-3 Ranking on the basis of Area, production and productivity

On comparison of India with other countries, it is found that though India has wide area for cultivation, the productivity is less. In the case of Brazil, Indonesia, Malaysia, Sri Lanka, Vietnam, China, Madagascar which has lesser area for production compared to India, has higher productivity. In the case of area, India is at the top position, but when it came to production India came down to second position. In the case of productivity, India is at last position which explains thepresent state of productivity of black pepper in India.

Factors affecting the profitability of Black pepper cultivation

The factors that affect the profitability of black pepper farmers include the lack of high-yielding improved varieties of pepper plants, unprofitable selling prices, marginal farming, low productivity, unpredictable weather, a shortage of skilled labourers and high labour costs, the migration of agricultural workers to other fields of employment, a lack of funding, the unavailability of credit facilities, the indebtedness of pepper farmers, and less government support.

Conclusion

In India, the vast majority of people rely on farming as their primary source of income due to the country's agricultural economy. The nation's progress was aided by a few economic changes, including privatisation, liberalisation, and globalisation. Due to the great consumption and utilisation of pepper in food along with other products like medicines, cosmetics, and other items, India has a significant export and import record for pepper. Pepper accounts up a significant portion of India's overall exports in terms of both quantity and value. One class of premium goods is Indian pepper. in order for Indian black pepper to constantly be sold for a premium. In conclusion, a mix of market forces, regulatory interventions, and technology developments can be seen in the current patterns of pepper farming productivity and profitability in India. Although production and profitability have increased significantly, there are still issues that need to be addressed, which calls for

coordinated efforts from all parties involved in the chain of value in agriculture. India can further solidify its position as an important manufacturer and exporter of pepper by resolving these issues and taking advantage of new possibilities, providing millions of farmers who cultivate the spice with sustainable incomes. India's pepper industry has both potential and problems in store for the future. In order to ensure long-term production and profitability, research and development efforts focused on creating climate-resilient cultivars and sustainable farming techniques must besustained. Additionally, Indian pepper growers may reach profitable foreign markets by improving market access using trade agreements as well as export marketing plans. Enhancing farm cooperatives and producer associations might also enable farmers to more effectively access resources and jointly bargain for better pricing.

References

1. Amal Abraham (2018). The Trend in Export, Import and Production performance of Black pepper in India
2. Gayathri. R, M. S. (2014). A study on the performance of major spices in India. Asia Pacific Journal of Management &Entrepreneurship Research (APJMER)
3. Hema. M, Ranjit Kumar and N.P. Singh (2007), Volatile Price and Declining Profitability of Black Pepper in India: Disquieting Future
4. Madan, M.S., (2000) The Indian black pepper – Economics and marketing, paper presented at the Centenial Conference on Spices and Aromatic Plants, Calicut, Kerala
5. Peter, K.V. and E.V. Nybe, (2006) Emerging trends in spices production, National Seminar on Emerging Trends in Production, Quality, Processing and Export of Spices at TNAU, Coimbatore
6. Rajesh, S. (2002). Export performance of major spices in India
7. SenthilKumaran P, Abdul Jaseem (2016), Scientometric Analysis of Black Pepper Research in India
8. Virendra M. Verma(2018),Plant Propagation and Commercial Cultivation in the Microne-sian Region: Challenges and Measures for Sustainable Black Pepper Production
9. Yogesh, M. S. (2013). Production and Export Performance of Black Pepper. International Journal of Humanities and Social Science Invention.