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A review of economics, entrepreneurial behaviour, and marketing analysis of pomegranate growers

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Abstract---India has always been known in the world for its Rural Based Economy, as nearly 65% of its population is dependent on Agriculture & other rural businesses. According to the census of India, 2011, the population of India is more than 1.21 billion and out of it, 72.2% population belong to the rural area. So, the study of rural development is very much required in India. One of the oldest well-known fruits, found in writings and artifacts of many cultures and religions, the pomegranate (*Punicagranatum*) is an original native of Persia. Maharashtra is known as the Fruit mixing bowl of India. Pomegranate cultivation now is a very captivating and remunerative big business for farmers in India promising financial return from this crop has resulted in an increase in area and production of pomegranate. The present investigation focused on “A Review of Economics, Entrepreneurial Behaviour, and Marketing Analysis of Pomegranate Growers.” Therefore, in view of pomegranate as a very important crop and its increased utilization in industrial applications, it is traded in domestic and also international markets. This market has become more speculative, and therefore pomegranates were purposefully selected for the study. The nature of the data that was used for the study is completely based on secondary sources of data. For the proposed study, We used descriptive research. The study covered India, where farmers cultivate pomegranates.

Keywords---pomegranate cultivation, economic analysis.

Introduction

The pomegranate (*punicagranatum*) is a multi-use fruit. The importance of this fruit from a dietary point of view can hardly be emphasized. Pomegranate fruits provide proteins, lipids, sugar, and minerals, which are essential for the maintenance of health. Pomegranate (*Punicagranatum*) grows in tropical and subtropical climates. The centre of the derivation of this fruit crop is thought to be Iran, where it was first cultivated in 2000 B.C. It is widely cultivated in Spain, Morocco, Egypt, Iran, Afghanistan, China, Japan, the USA, Russia, Pakistan, India and other Mediterranean countries. Pomegranates occupy 18th place based on production among the world's major fruit crops. Pomegranates are commercially grown for their sweet, acidic taste. Fruits are mainly used for dessert purposes. This fruit also has an extensive consumer preference for its attractive, juicy, sweet, acidic, and refreshing fruits. Fruits are used for equally fresh consumption and processing.

The bright fruit is of exquisite quality, while its processed products such as bottled juice, syrups, and jelly are highly appreciated and nourishing. Fruit is a high-quality source of carbohydrates, minerals, and vitamins. Pomegranate plants and fruit have been prized for centuries for their medicinal properties. Chatterjee (1992) defined an entrepreneur as a single person who creates something new, undertakes risk, organises production, and handles economic uncertainty. He termed entrepreneurship since the mission and entrepreneur as the missionary. In India, fruit crops are cultivated on an area of 6597 thousand ha with a production of 97967 thousand Mt of fruit (National Horticulture Board 2018-19). The total area under farming of pomegranates in India is 253.00 thousand ha and production is approximately 2915.00 MT (NHB-2018-19). India is one of the leading nations in pomegranate acreage and production worldwide. The area under farming of pomegranates in India has grown. Maharashtra experienced the fastest growth in pomegranate are as in the country.

The share of pomegranate growers in major Indian states as of 2017-18 is as follows. Maharashtra is the major producer of pomegranates in India. Maharashtra has the maximum share in the country (62.91%), and other pomegranate producing states include Gujarat (16.23%), Karnataka (9.43%), Andhra Pradesh (4.89%), Madhya Pradesh (4.02%), Rajasthan (0.93%), and Telangana (0.70%). In recent years, pomegranate cultivation has also been started in Tamilnadu, Chhattisgarh, and Kerala. India produces about 50 percent of the world's production of pomegranates. The area under pomegranates in India was 2.33 lakh hectares and production was 28.44 lakh tonnes with a productivity of 12.16 MT/ha during 2017-18. In India, Maharashtra is the leading pomegranate growing state. Followed by Gujarat, Karnataka, Andhra Pradesh, Madhya Pradesh, Rajasthan, and Telangana. Ganesh, Bhagwa, Ruby, Arakta, and Mridula are the different varieties of pomegranates produced in Maharashtra. In Maharashtra, pomegranates are commercially cultivated in Solapur, Sangli, Nasik, Ahmednagar, Pune, Dhule, Aurangabad, Satara, Osmanabad, and Latur districts.

Objectives of literature review

- To understand the details of pomegranate cultivation.
- To find out the research done so far on pomegranate cultivation.

Methodology

Nature and source of data

In the view of pomegranate as a very important crop and its increased utilization in industrial applications, it is traded in the domestic and also the international market. This market has become more speculative and therefore pomegranates were purposively selected for the study. The nature of the data that was used for the study is completely based on secondary sources of data. For the proposed study, we used descriptive research. The study covered India, where farmers cultivate pomegranates.

Scope of literature review

During this literature review, the researcher narrowed down, reviewing the literature only in the context of pomegranate cultivation. It examines the various factors that give priority to pomegranate cultivation, the consequences of pomegranate cultivation; the economic progress of farmers due to pomegranate cultivation, various diseases of pomegranates, and the problems facing pomegranate growers. The primary goal of this review is to identify research gaps in the research work under consideration.

Details of review

Economics of pomegranate production

The following is a study of the socio-economic characteristics of pomegranate growers and related research:

Nagesh and S.V. Halakatti (2014) published an article on "Relationship between socio-economic characteristics and entrepreneurial behaviour of pomegranate growers." In his research paper, he conducted a study to explain the relationship between entrepreneurial behaviour and socio-economic characteristics of pomegranate growers in the Bagalkot district of Karnataka. They found in the study that the majority of farmers exhibited moderate entrepreneurial behaviour. They found significant links between education, land tenure, annual family income, media participation, and scientific orientation. Also, in others, age, occupation, and exposure have shown a non-significant relationship with the entrepreneurial behaviour of pomegranate growers.

Sahana R T, Venkatamana M. N., and Anithas (2017) published a research paper entitled "Economic and Financial Feasibility of Pomegranate Cultivation in Chitradurga District of Karnataka." In this paper, researchers have purposely selected two talukas in the Chitradurga district of Karnataka for this study. As the area under pomegranate crops here is significant, they have randomly selected a total of 60 farmers for the study. From the above study, they found that

the total establishment cost of a pomegranate orchard was Rs 4,44,034 per hectare. The total annual cost to the farmers for maintaining the pomegranate orchard in the study area was Rs 3,05,106. The average production of pomegranates was 9.71 MT per hectare. The total return they received was Rs 5,97,359, while the net return was Rs 2,92,253 per hectare per annum. From this, it is understood that pomegranate farming is a very lucrative industry. Therefore, agricultural extension agencies need to make it popular among farmers.

S. R. Suramwad, B.T.Kolgane, and R. V. Dound (2018) published a research paper entitled "Study of socio-economic characteristics of pomegranate-growing farmers in Solapur district of Maharashtra State." In his research paper, he studied 144 pomegranate growers in Sangola, Pandharpur, and Mohol talukas of Solapur district. They found that the majority of the farmers were facing problems like lack of storage facilities, irregularities in the market, irregular supply of electricity, non-availability of loans at low-interest rates, lack of knowledge of export, and lack of skilled and technical manpower. It is also suggested that more than three-fourths of the farmers should provide pre-cooling and cold storage facilities, a minimum support price, training, and transportation facilities for the workers. Overall, this study shows that government and non-government organizations need to make efforts to create awareness among farmers.

AR Kulkarni, AS Tingre, and DJ Sanap (2019) published a research paper entitled "Economics of production and constraints in pomegranate cultivation in Vidarbha region of Maharashtra." In their research paper, researchers chose the Washim district of Maharashtra for this purpose. He has studied 90 farmers in two talukas, Mangrulpir, and Manora, in Washim district. The purpose of this study was to study the economics of production of selected pomegranate growers and the difficulties in pomegranate production. From this study, it was found that the per hectare establishment cost for a pomegranate orchard is Rs. 87421.07. The total cost per hectare for pomegranate cultivation is Rs 121170.33, while the cost-benefit ratio is 2.14. At the same time, the cost of pomegranate cultivation increases with the age of orchards, and the cost of chemical fertilisers and human labour also increases. Also, major barriers to pomegranate production are the high cost of inputs, the unavailability of skilled labour, a lack of technical knowledge, high labour costs, and the unavailability of quality planting material.

SD Bhojar, Dr. RD Ahire, and S. S. Shende (2021) published a research paper entitled "To identify the problems of pomegranate growers in information management and to obtain their suggestions." Researchers have selected Aurangabad district for the study as it has the highest production of pomegranates of the eight districts in Marathwada. There are nine talukas in the Aurangabad district, out of which researchers have deliberately selected two talukas, namely, Aurangabad, and Phulambari. They have randomly selected four villages from each taluka and selected 15 farmers from each village by lottery methods. As a result, the total sample size was 120, and they used an ex-post-facto research design in the study. The aim of the researchers behind the above study was to identify the problems facing pomegranate growers in information management and to advise them. The researchers found that pomegranate growers lack training in programmes organised by KVK, SAUs, lack of information

on pest and disease management, network problems, internet, farmer call center, unavailability of agricultural publications, lack of proper market information and resources, and use of the internet. Lack of skills, lack of time and mobility to meet agricultural scientists and expanders, and vice versa.

Entrepreneurial behaviour of pomegranate growers

The following is a research study related to the entrepreneurial behaviour of pomegranate growers:

B T Kolgane, S R Suramwad, and R V Dound (2018) have published a research paper on "Study the entrepreneurial behaviour of pomegranate growing farmers in Solapur district of Maharashtra State." In their research paper, researchers have collected information from 144 farmers in Sangola, Pandharpur, and Mohol talukas of the Solapur district in western Maharashtra. They selected these talukas through random sampling. While studying the entrepreneurial behaviour of pomegranate growers, they found that entrepreneurial behaviour, innovation, motivation for success, decision-making ability, financial motivation, risk orientation, leadership ability, and management orientation are the seven factors that contribute significantly to entrepreneurial behaviour.

Abhishek Naik S. and S. V. Suresha (2020) published a paper in an article on "Correlates of adoption of recommended cultivation practices of pomegranate growers using public and private extension services." In their research paper, researchers selected three talukas of Chitradurga district, including Challakere, Chitradurga, and Hiriyur, for study, considering the area and production of pomegranates. They randomly selected 20 growers out of 60 farmers in each taluka in both the extension service systems by selecting 60 farmers in the public extension service and 60 farmers in the private extension service. For this study, he used an ex-post facto research design. The purpose of this study is to determine the complete adoption of improved pomegranate cultivation methods by growers, including public and private extension services. Also to explain the relationship between pomegranate growers' personal, social, and psychological characteristics as a result of improved cultivation methods. At the same time, the problems faced by pomegranate growers, including public and private extension services, were to be explored. From this study, they found that the adoption of the methods recommended by the private extension system was better than that of the public extension system. It is also important to encourage family workers to participate in farm work. Which will reduce the labour crisis and production costs.

GR Bidve, MS Anarase, and GK Sasane (2021) published a research paper entitled "Study of relationship between marketing behaviour of pomegranate growers and selected independent variables". In this paper, he has studied the three districts of Maharashtra: Nashik, Solapur, and Ahmednagar. Researchers have selected two tehsils with maximum pomegranate cultivation in each district, from Nashik to Satana and Malegaon, from Solapur to Sangola, and Pandharpur and Ahmednagar to Sangamner and Rahata talukas. They selected 36 villages in these talukas and collected information from 360 pomegranate growers using an

Ex-Post-Facto research design. The purpose behind studying them was to find out the relationship between the marketing behaviour of pomegranate growers and the selected individual variables. From the above study, they found that among the independent variables, farming experience, area under pomegranate cultivation, productivity, production, annual income, and irrigation status, sources of information, economic motivation, scientific orientation, and risk orientation are all positive and extremely important. So education is significantly more important, and not only is age positive but also important for the marketing behaviour of pomegranate growers.

SM Durge, AM Raut, AV Bhalerao, A Idhole, and Dr. KT Lahariya (2022) published a research paper titled "To Study the Relationship between Selected Characteristics and Resource Management Behaviours of Pomegranate Growers and the Constraints Faced by Pomegranate Growers in Managing the Resources." In their research paper, researchers selected Mangarulpur and Manora talukas on the basis of the maximum area under pomegranates to study the resource management behaviour of pomegranate growers in the Washim district. They have collected information from a total of 120 farmers. From the above study, it was found that the majority of respondents had moderate planning of their resources, so producers faced various problems, including lack of market knowledge regarding inadequate knowledge, processing industry, high cost of skilled labour, lack of storage facilities, and high transportation costs. Therefore, with the help of governmental and non-governmental agencies, educational programmes like demonstrations and seminars on the occasion of Farmers' Day should be organised to convince farmers about the importance of resource management behaviour so that pomegranate growers can fully manage the resources required for pomegranate cultivation.

Marketing of Pomegranate

The following is a study of the marketing of pomegranate growers:

Sujit Sudam Mohalkar, Dr. Umrao Shivaji Bondar, and Rajesh Vasantrao Shrote (2018) published a research paper entitled "An evaluation of market channel / supply chain of pomegranate in Ahmednagar district of Maharashtra." This research paper's main objective was to study the pomegranate fruit market chain in Ahmednagar district. And to study the relationship between the prices of pomegranate growers and the market chain. The study found that when pomegranate growers get Rs 40 per kg, the selling price for consumers is Rs 100 per kg. Producers get forty rupees, and the market chain gets sixty rupees. To get good returns, growers need to be aware of the market for small chain fruit sales, and need to reach out directly to consumers to avoid the market chain. At the same time, producers need to use mobile apps for market information and intelligence.

B N Anaida, K P Raghuprasad, Tanweer Ahmed, and BN Mrunalini (2018) published a research paper on this topic, "Harnessing the Export Opportunities in Pomegranates to Enhance the Income of the Growers." In his paper, he has been selected for the study of Bagalkot district in the state of Karnataka. Using an ex post facto research design, they randomly selected 30 farmers from each taluka

by selecting two talukas, Kaladgi, and Govindakoppa. This study was done in the years 2017–18. Researchers have conducted this study to analyse the level of knowledge of pomegranate growers as well as the quality of pomegranates as well as pomegranate quality measurements in order to increase the income of pomegranate growers. The study found that respondents (86.67%) were aware of fruit weight, (85.00%) farmers were aware of fruit size, and (80.00%) farmers were aware of fruit color, but (61.67%) farmers were not aware of mealybug infection. Also, 53.33% of people were unaware of the dangers of thrips; 50.0% of people were unaware of chemical residues, and 46.67% of farmers were unaware of the taste of fruits. This means that most farmers are aware of important physical parameters like fruit size, fruit weight, and colour of the fruit, but they are not aware of other parameters determining export value. Therefore, there is a need to create awareness among pomegranate growers about this aspect. So that the farmers are aware of the criteria of export quality, and they can export more so that they can increase their income by using the available export opportunities.

AR Kulkarni, AS Tingre, and DJ Sanap (2019) published a research paper entitled "Marketing and Constraints of Pomegranate in Washim District: An Economic Analysis." In their paper, researchers chose the Washim district on purpose. The study selected 90 pomegranate growers from Mangrulpir and Manora, two talukas of the district. The aim of his study was to study the marketing of pomegranates and understand the difficulties in marketing pomegranates. After a thorough study, they found that growers who did not participate in the marketing process sold their produce to a pre-harvest contractor, and some farmers sold their produce at the taluka market with their own vehicles. From this, he concluded that due to the lack of intermediaries in marketing, the share of producers in consumers' money is higher. At the same time, they found that the major obstacles to marketing were lack of market information, followed by high market commissions, cold storage, and lack of processing facilities.

BT Kolgane, SB Shinde and MC Ahire (2019) published a research paper titled "Mass media utilization by the pomegranate growers for seeking the information on nutrient management practices". In their research paper, they selected a total of 270 pomegranate growers from 18 villages in 6 talukas of Solapur, Sangli, and Nashik districts of Maharashtra. From the above study, they concluded that the majority of respondents used printed materials and a small amount of electronic media as a medium for a low to moderate amount of information. At the same time, the majority of farmers were reading daily newspapers and agricultural magazines, and the majority of respondents were watching television and listening to the radio every day for information. But the majority of respondents did not use the Internet, which was meant to provide information on nutrient management practices for pomegranate growers.

Ramesh Madhav Jadhav, Dr. Amit Kumar Mishra, Dr. Sachin Sopan Gondkar and Vikram Keshav Raut (2019) published a research paper titled "Critical Analysis of Marketing Constraints Faced by Pomegranate Growers in Ahmednagar District of Maharashtra." In their research paper, researchers deliberately selected Sangamner, Akole, and Rahata as the more pomegranate-producing talukas in the Ahmednagar district of Maharashtra. They have randomly selected 150

pomegranate growers from selected villages, using a multistage sampling method for the selection of talukas and villages. From the above study, researchers understand the problems of pomegranate growers. And they found that the major marketing problems facing pomegranate growers in this study area were market fluctuations in product prices, lack of processing facilities, high transportation costs, low prices for pomegranate growers, lack of storage facilities, insecurity in payment, unavailability of workers, and risk-taking.

Research Gap

On the basis of the above given, a review we concluded the following opinions: socio-economic characteristics of pomegranate growers; financial feasibility of pomegranate cultivation; entrepreneurial behaviour of pomegranate growers; evaluation of pomegranate market channel/supply chain, Harnessing the Export Opportunities in Pomegranates to Enhance the Income of the Growers, Production economics and constraints in pomegranate cultivation, pomegranate growers' use of mass media, pomegranate growers' marketing behaviour, pomegranate growers' information management problems, and pomegranate growers' resource management difficulties. However, what factors influenced the farmers to turn to pomegranate production? Changes in Climate Change, Irrigation Facilities, Rainfall, Changes in Education, Changes in Decision Making, Transport Facilities, Training, Land Availability, Types, Leadership Skills, and Management Changes have changed the economic situation of pomegranate growers. There is a need to study the opportunities in pomegranate cultivation. Overall, no study has been done on the economic analysis of pomegranate growers.

Conclusion

On the basis of the above given, a review we concluded the following opinions: socio-economic characteristics of pomegranate growers; financial feasibility of pomegranate cultivation; entrepreneurial behaviour of pomegranate growers; evaluation of pomegranate market channel/supply chain, Harnessing the Export Opportunities in Pomegranates to Enhance the Income of the Growers, Production economics and constraints in pomegranate cultivation, pomegranate growers' use of mass media, pomegranate growers' marketing behaviour, pomegranate growers' information management problems, and pomegranate growers' resource management difficulties.

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