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Case studies of successful fruit crop entrepreneurs

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Abstract

Fruit crops have emerged as a promising avenue for entrepreneurial pursuits among farmers, offering higher yields and returns per unit area, optimizing resource utilization on farms, and presenting diverse opportunities for post-harvest processing and value addition. The present study was conducted in 2019-20 to document case studies of successful fruit crop entrepreneurship. The study area, Vijayapura district of Karnataka state holds a distinct position as one of Karnataka's leading fruit-producing regions. Despite contending with persistent challenges of water scarcity and arid land conditions year-round, farmers here have diversified by cultivating fruit crops like grape, lime, pomegranate, banana, mango, sapota and papaya. The case study method was used to document the socio-economic profile, present situation of the farm, constraints and suggestions of three successful fruit crop entrepreneurs.

Keywords: Entrepreneurship, case study, fruit, grape

Introduction

Horticulture plays a vital role in our nation's economy. This sector has significantly bolstered farmers' financial stability by yielding higher returns from the cultivation of perennial fruit crops, vegetables, flowers, and their year-round marketing of produce. Growing horticultural crops is acknowledged as an optimal means to enhance livelihood security, achieve food stability and supplement the income of farming communities through value addition. Fruit and vegetable crops, are notably resilient to weather fluctuations and are predominantly cultivated by small-scale farmers to increase their earnings. Additionally, this sector ensures that people have access to a diverse and balanced diet, contributing to healthier living. Over recent years, horticulture has gained prominence, playing an increasingly substantial role in the overall output of agriculture and related sectors.

The status of horticulture crops in India has seen a remarkable upswing. The proportion of horticulture output in agriculture has surged to 33%, marking a substantial increase. Notably, fruit and vegetable production in India has surpassed that of food grains. As of 2022-23, the estimated total horticulture production stands at an impressive 351.92 million tonnes (PIB, 2023) ^[2]. Karnataka stands out prominently, securing the sixth position in India's fruit crop production, boasting a 7.4% share. The total cultivated area for fruit crops in Karnataka spans 4.31 lakh hectares, yielding a production of 7.1 million tonnes. Vijayapura district holds a distinct position as one of Karnataka's leading fruit-producing regions. Despite contending with persistent challenges of water scarcity and

arid land conditions year-round, farmers here have diversified by cultivating fruit crops like grape, lime, pomegranate, banana, mango, sapota and papaya. Fruit cultivation spans across 24.4 thousand hectares, yielding an impressive production of 4.43 lakh tonnes in Vijayapura district (Anonymous, 2018) ^[1].

Entrepreneurship is an individual's ability to introduce fresh and innovative approaches within one's business or organization. Entrepreneurship catalyzes multidimensional progress, encompassing risk-taking, resource mobilization, and innovation in cultivation practices to enhance both quality and quantity while reducing costs, market expansion, and effective supply chain management. The rapid agricultural advancement, poverty alleviation, and unemployment challenges have brought rural entrepreneurship to the forefront. The future advancement of the agricultural community hinges significantly on the entrepreneurial actions of farmers. Fruit crops have emerged as a promising avenue for entrepreneurial pursuits among farmers, offering higher yields and returns per unit area, optimizing resource utilization on farms, and presenting diverse opportunities for post-harvest processing and value addition.

Therefore, this study is an attempt to fully understand and document the case studies of successful fruit crop entrepreneurs. This study will give insights into the socio-economic profile, the present situation on the farm and the important constraints and the suggestions to overcome them. The extension officials can use these case studies to construct specific modules for the entrepreneurial improvement of other fruit crop farmers.

Materials and Methods

Vijayapura district of Karnataka state is well known for its fruit production. It is one of the leading producers of fruit crops such as grape, pomegranate and lime. Hence, Vijayapura district and these three crops were selected for the study purposively. The three case studies were identified after consultation with the Assistant Horticulture Officer (AHO), Vijayapura district, Karnataka State Department of Horticulture (KSDH), Extension Scientists at College of Agriculture (CoA), Vijayapura and Krishi Vigyan Kendra (KVK), Tidagundi. An interview schedule was prepared and a personal interview at the farmer's residence and farm was done to document these case studies.

Results and Discussion

Case Study 1: Dr. Krishna Mumbareddy

Dr. Krishna Mumbareddy, aged 58, is a grape crop entrepreneur residing in Gunadal village in Vijayapura district. With a vast experience of 35 years in grape cultivation, Dr. Mumbareddy also holds a Ph.D. in Crop Physiology and had previously held the position of Professor at the University of Agricultural Sciences (UAS), Dharwad.

Diversifying crops on his farm, Dr. Mumbareddy managed an expanse of approximately 60 acres, cultivating a diverse array of both field and horticultural crops. The farm includes the cultivation of wine grapes across 16 acres, table grapes spanning 10 acres, along with dedicated areas to sugarcane (10 acres), papaya (6 acres), and pomegranate (5 acres). Furthermore, he has utilized 8 to 10 acres for seasonal crops such as maize and pigeon pea. Primarily focused on grape cultivation, he cultivated both wine and table grape varieties. The wine grape varieties on the farm comprise V1 (white) and Cabernet (red), while the table grape variety is Thomson seedless. Engaged in entrepreneurial activities, Dr. Mumbareddy undertakes mass production of wine grape, operates commercial raisin sheds, and is the proprietor of the Nisarga winery.

The market price for wine grape varieties, ranging between ₹80-100, surpasses that of table grape, which fetches ₹50-70. The wine grape harvest from his farm serves as the raw material for the Nisarga winery. Established in 2010 with an initial investment of ₹12 crores, the winery presently generated an annual turnover of approximately ₹6 crores. The inception of the winery stemmed from the challenges faced by grape growers in the region, notably the fluctuating and low prices of fresh grapes. Dr. Mumbareddy encourages fellow farmers to consider cultivating wine grape, offering to purchase their produce for the winery.

Additionally, he has constructed 10 commercial raisin sheds on his farm, available for small grape farmers at a nominal fee of ₹5 per kg. He also procures fresh grapes directly from other farmers, processing them into raisins for marketing. Raisin production proved to be more lucrative, commanding prices up to twice as high as fresh grapes.

Dr. Mumbareddy has embraced mechanization for ploughing, spraying, and other farm operations using a power tiller. Employing drip irrigation across his entire farm, he administers all necessary nutrients through fertigation. He diligently monitors crop health, applying foliar sprays for micronutrient supplementation at appropriate intervals to ensure robust plant growth.

Table 1: Economics of the farm

Sl. no	Crop	Yield (in tonnes/acre)	Cost of cultivation (₹/acre)	Returns (₹/acre)	B:C ratio
1	Wine grape	9	80000	250000	3.13
2	Table grape	15	100000	225000	2.25
3	Pomegranate	10	60000	150000	2.50
4	Papaya	35	45000	100000	2.22
5	Sugarcane	40	40000	70000	1.75

Table 1 indicated that all the crops taken up at the farm yield higher economic returns than invested which is a clear indication of good management practices. The major constraints faced by the farmer are the shortage of irrigation sources, uneven rainfall especially during harvest season, uncertainty in prices and labour shortage. The farmer also generated employment in the winery as well as on his farm. The skilled labourers on the farm come from other states such as Madhya Pradesh and Bihar during the harvest and raisin making season.

Dr. Krishna H Mumbareddy is a farmer leader and presently serves as Honorary Secretary of Karnataka Grape Farmers Association and continues to be the voice of farmers. Because of his constant progress in the scientific cultivation of grapes he was awarded Dr. Marigowda Award in 2006 and the Best Farmer Award during 2014-15. He continues to be a role model and leader for the farmers in the district.

Case Study 2: Mr. Venkappa Laxmappa Channal

Grape is one of the important fruit crops of India covering an area of 123 thousand hectares occupying 2.01 percent of the total area. India is also a major exporter of fresh grapes to the world. The country has exported 246133.79 MT of Grape to the world for the worth of Rs.2335.24 crores/334.79 USD Million during the year 2018-19 (Anonymous, 2018) ^[1]. The major destinations for exports are the Netherland, Russia, the United Kingdom, Bangladesh and Germany. Vijayapura district is known for grape production but export of grapes is not practiced and is relatively a new concept in the area.

Mr. Venkappa, a 70-year-old grape export entrepreneur resides in Kambagi village of Vijayapura district. He had 50 years of experience in grape cultivation, having retired as a high school teacher. Managing 30 acres of land solely dedicated to grape cultivation, his farm hosts various grape varieties such as Manik Chaman covering 10 acres, and 2A clone, Krishna Sharad (Black), RK, and SSN spanning 5 acres each.

Attending a training program at the National Research Centre on Grape in Pune proved pivotal for Mr. Venkappa, where interactions with successful farmers led him to venture into grape export in 2010. This strategic move resulted in fetching better prices for his grapes compared to domestic markets.

His farm is meticulously divided into 12 one-hectare plots, aimed at efficient management encompassing plant protection, irrigation, and staggered harvests tailored for export timelines. This division also mitigates grape contamination by pesticide spray. The export process is facilitated by specialized agencies, relieving the farmer of export-related intricacies and allowing him to focus solely on adhering to international export standards in grape cultivation.

An integral part of the export process involves the agency collecting samples from each plot a month before harvest for laboratory assessment of pesticide residue. Satisfactory results prompt the agency to proceed with harvesting, packing, and export. Unsatisfactory samples render the respective plot unsuitable for export. This segmented approach assists in meeting diverse international regulations on pesticide residue and other standards specific to various countries. Rejected plots are redirected for raisin production, sold in the domestic market.

Mr. Venkappa has implemented mechanization across his farm for ploughing, spraying, and other operations via a power tiller. Employing drip irrigation sourced from a larger farm pond ensures efficient water management. Continuous monitoring of crops coupled with timely foliar sprays for micronutrient supplementation promotes healthy plant growth. The adoption of the 'flat V' system of training across all plots maximizes sunlight exposure, enhances arability, and simplifies intercultivation tasks. Green sheets separate each of the 12 plots to prevent pesticide residue contamination.

Export-standard grape cultivation incurs higher costs due to specific, costly plant protection chemicals and the employment of skilled labor. However, meticulous management keeps cultivation costs around ₹2.75 lakhs per acre, generating returns of ₹8 lakhs per acre, indicating a favorable B:C ratio of 2.9, affirming the viability of grape export.

Challenges highlighted by Mr. Venkappa encompass the complexity of meeting international standards for grape exports, particularly regarding specific parameters such as round-shaped sour grapes with precise dimensions and sugar content. The lack of training, inadequate infrastructure, erratic rainfall during harvest season, and wastage during agency harvesting remain significant obstacles.

Mr. Venkappa stands as a role model for fellow grape farmers aspiring to excel in exports. His contributions have earned recognition from multiple cooperatives, including the University of Horticulture Sciences, Bagalkot, awarding him the Best Farmer Award in 2016. He emphasizes the need for the Karnataka State Department of Horticulture to educate grape growers on the lucrative prospects of export and to facilitate necessary infrastructure.

Case Study 3: Mr. Vittalagouda Biradar

Mr. Vittalagouda, a 65-year-old agripreneur, resides in Tidagundi village within the Indi taluk of Vijayapura district. Having completed his education up to PUC and amassing 40 years of farming experience, he efficiently manages 45 acres of land. His cultivation includes seasonal field crops like maize, pigeonpea, and chickpea, occupying 20 acres of dry land, while the remaining 25 acres are dedicated to fruit crops such as grape and kagzi lime. Notably, he cultivates the Thomson seedless variety of grape and the Kagzi lime variety in his farm.

A trailblazer in adopting innovative agricultural practices, Mr. Vittalagouda actively collaborates with line departments and Research Institutes to disseminate farming innovations in his locality. In a significant move, he coordinated the acquisition of Dogridge grape rootstock from the United States of America via the Indian Institute of Horticulture Research (IIHR), Bengaluru. Utilizing this rootstock, he

propagated 50,000 plants and distributed them across 50 villages in 1984. The use of rootstocks like Dogridge aids in tackling issues related to salinity and drought. Known for its nematode resistance and nutritional support to the grafted scion, Dogridge rootstock proves highly beneficial.

Despite the Vijayapura district's prominence in grape and raisin production, the absence of processing and preservation facilities posed challenges for farmers. Recognizing this gap, Mr. Vittalagouda identified an opportunity to establish a processing and preservation center to alleviate these issues.

He serves as the President of the Gurudev Raisin Industrial Processing and Preservation Cluster Association, initiated on October 15, 2016. This association played a pivotal role in establishing a raisin processing unit based on a cluster approach within the district. The development of cold storage under the Ministry of Micro, Small, and Medium Enterprises (MSME) - Cluster Development Programme (CDP) ensued. Operating as a Special Purpose Vehicle (SPV), this association, currently comprising 81 members, is responsible for the operational and managerial aspects of the facility.

The cost breakdown and financing details of the project are given in Tables 2 and 3.

Table 2: Breakup of the Project cost

Description	Amount (Rs. In Lakhs)
Land and Site Development	61.50
Building and other Civil Construction	216.96
Plant & Machinery (including electrification)	1082.68
Preliminary and Pre-operative expenses	7.00
Misc Fixed assets and Contingency fund	70.47
Margin money for working capital	8.50
Total project cost	1447.20

Table 3: Means of Finance

Particulars	%	Amount (Rs. In Lakhs)
SPV Contribution	10.00	144.70
State govt. contribution	10.00	144.70
Central govt. contribution	80.00	1157.80
Total	100.00	1447.20

The unit boasts various state-of-the-art facilities including an automatic raisin drying plant, an automatic raisin cleaner and grader, a branding and marketing center, a raisin testing laboratory, laser sorting capabilities, and a cold storage with a capacity of 1500 MT. For utilizing these amenities, the unit charges nominal fees: 40 paisa/kg/month for cold storage, ₹1/kg for netting, ₹2/kg for washing, and ₹3/kg for packaging of raisins. Employing 25 skilled laborers, the processing plant efficiently operates. Farmers have the option to either sell their produce directly to this processing unit or opt for processing to enable separate marketing. The unit markets the processed raisins under its brand. The annual returns from this processing unit amount to approximately 8 to 10 crores.

Mr. Vittalagouda's entrepreneurial endeavors have earned him accolades such as the Dr. Marigowda Award and the Governor Award for Social Activities. The processing unit has initiated export-oriented services and is contemplating expanding the plant within the next two years by

introducing automated collection and packaging facilities. To encourage the involvement of farmers and vendors in preservation and storage facilities, the association conducts regular workshops, often sponsored by various line departments and research institutes, to enhance awareness in this domain.

Conclusion

While the fruit crops are extensively grown in the district, it was observed that a smaller number of fruit growers become an entrepreneur. This calls for improvement of entrepreneurial activities of fruit crop growers by organizing effective entrepreneurship development programmes by the department of horticulture in collaboration with the entrepreneurship development organizations active in the district such as Centre for Entrepreneurship Development of Karnataka (CEDOK), Rural Development and Self Employment Training Institute (RUDSETI) and Association of Women Entrepreneurs of Karnataka (AWAKE). Other crops such as pomegranate and lime also have unutilized potential for entrepreneurship as indicated by the successful farmers. Thus, periodic and intensive training programmes need to be organized for creating awareness, followed by vigorous follow-up, guidance and counselling for sustainability of the entrepreneurial activity. These case studies in the study clearly indicate that the fruits crops are an excellent avenue for farm diversification, especially for small and marginal farmers in the study area can be taken as a proof of successful entrepreneurship.

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