



A Study on Technological Advancements in Cashew Processing Machines in India

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Abstract

This article theoretically analyses about the "A Study on Technological Advancements in Cashew Processing Machines in India." In addition to being a significant cash crop, cashew is one of the most valuable processed nuts traded on the world's commodity markets. Cashew is grown on 9,23,000 hectares of land in India, where it produces 613,000 MT and has a productivity of 0.7 MT/ha. With a 32.3% share, Maharashtra leads the nation in cashew output. For its kernels, it is extensively grown across the tropics. It is produced in a few plain regions of Karnataka and Madhya Pradesh as well as on the east and west coasts of India. In Maharashtra, productivity is shown to be the highest. With a 25.52% global output share, India is the world's biggest cashew producer. About 230 kg (23%) are created for every metric ton of raw cashew seed produced and processed in India. This study employed frameworks such as the SWOT and PEST analyses to analyses market trends. Though India is one of the leading producers of cashew, still they were using one of the traditional methods to processing the cashew nuts. The study enhances about the marketing strategies which should be followed to develop the cashew processing machines in India.

Keywords: Cashew industry; cashew processing machines; marketing strategies;

1. Introduction

India is one of the world's leading producers of cashews. Since the cashew sector supports over 10 lakh jobs in rural factories and farms, it has significant economic impact. Over 0.8 million tonnes (MT) of cashews are produced annually in India, where the crop is grown on 0.7 million hectares of land. India increased its production of cashew nuts from 0.70 million tonnes (MT) to 0.77 million tonnes (MT) during 2019–20 to 2021–2022. Cashew cultivation is dispersed over the Indian peninsula's coastal regions. States like Maharashtra, Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Goa, Orissa, West Bengal, and certain areas of the Northeast are the primary locations for cashew cultivation. The National Horticulture Board (NHB) released data showing that Maharashtra is the top state in terms of annual cashew nut output in 2021–2022, with 0.20 million tonnes (MT), up from 0.19 million tonnes in 2020–21. Cashew processing is at its height in India these days. The industry should focus more on machinery than on using conventional techniques to process cashews. Both labor and time would be cut. The greater the awareness, the more commercials and marketing were required. Current

marketing tactics, such as promoting through a variety of channels and rival trends, would be covered in the study. This would force rural farmers to keep up with the times and overcome all obstacles.

2. Literature Review

S. Muthu Kumar, V. Ponnuswami, K. Padmadevi (2015) [5] It states that the Cashew, a valuable processed nut, is produced by India, accounting for 25.52% of global production. The market is dynamic, with sustainable growth rates. Karthickumar P, Sinija V. R. And Alagusundaram K. (2014) [3] The study denotes about the India's cashew industry, a significant cash crop, has untapped potential to support farmers' livelihoods, provide employment, and improve returns through global trade. Prof. P.L. Saroj (2015) [4] This study enhances the crucial role of India in the cashew industry. The cashew industry is primarily managed by proprietorships or partnerships, relying on governmental and commercial banks for capital investment. S. J. Ojolo, Olatunde Damisa, Joseph I. Orisaleye, Celestine Ogbonnaya (2010) [2] This study examines the physical and mechanical properties of roasted cashew nuts during fracture,



focusing on impact load and impact velocity for ideal shelling impeller design and throughput capacity. Oyetunji Ropo, Akinfenwa Ayobami, Adewuyi Festus (2022) [1] This study developed a cashew nut processing machine to improve farmers' efficiency. The machine, which includes a heating and shelling chamber, dried, roasted, and shelled cashew nuts, achieving an efficiency of 80%.

3. Objectives

- To suggest about the cashew processing machines to get implemented in the low-level cashew industries.
- To enhance the rural cashew industries in productivity and efficiency.

3.1 Research Design

The research design used here is theoretical research. The study is based on secondary data from source available in the, website, text book, journal, research article. The tools included are PEST and SWOT analysis.

4. Indian Cashew Industry

For many years, the nation has enjoyed eating edible cashews as a snack. They are also a staple in desserts and cooking, particularly in Asian cuisine. Additionally, cashews are becoming a more common ingredient in ice cream, chocolate, cookies, energy bars, and muesli. One ounce of cashews includes 622 micrograms of copper, one of the nutrients known to be abundant in cashews and to benefit bone health in humans. Figure 1 The India Cashew Market is expected to expand during the projected period due to the rising consumption of various cashew-based snacks and ready-to-eat foods in the nation. FIndia is renowned for its extensive cashew output, as well as for being a pioneer in cashew processing and exporting cashew kernels around the world. Previously centered in Goa, Vettapalam (Andhra Pradesh), Kollam (Kerala), and Mangalore (Karnataka), the cashew processing business is now dispersed over numerous Indian states. India has been the cashew industry's global

processing powerhouse throughout time. The nation contributes over 65% of all exports worldwide. India is a global exporter of kernels, reaching over 60 countries. India exported US\$ 0.92 billion worth of cashews and cashew-based products in 2011–12. India made US\$ 915.86 million and US\$ 12.40 million in revenue from the export of 13,575 metric tonnes of cashew nut shell liquid (CNSL) and 131,160 metric tonnes of cashew kernels in 2011–12.

4.1 Cashew Processing Machines

In the modern world, money and time efficiency are the most important factors. People were focusing more on cutting expenses and time. Utilizing cashew processing equipment would reduce production costs, as labour costs are directly related to production costs. The majority of the time, a lack of labour forced the closure of cashew manufacturers; in these situations, the factories may have processed the cashews using machinery. It has a dual effect since it can cut down on expenses and time.

4.2 Challenges of Cashew Processing Machines

The main issues with cashew processing machines, which the majority of people were ignorant of. It needs to require appropriate awareness-raising and advertising. Figure 2 It also requires more electricity, which would add to India's already heavy load given the country's current electricity shortage.

5. Findings and Suggestions

The main discovery is that these machines would reduce costs, which would lower production costs and provide a competitive edge. It formerly provided market leadership. However, in comparison to conventional cashew processing methods, it also reduces production costs. In order for this machine to be successful, it must be well advertised in order for more people to learn about it and utilize it appropriately.

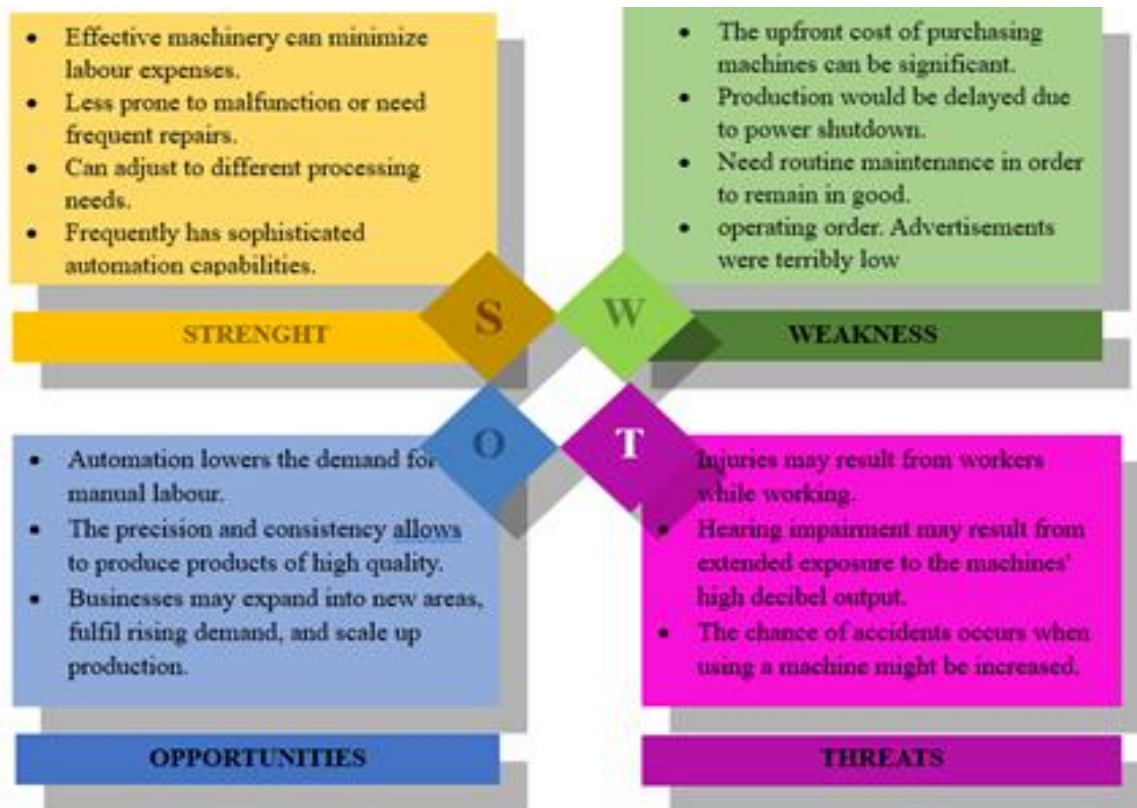


Figure 1 SWOT Analysis

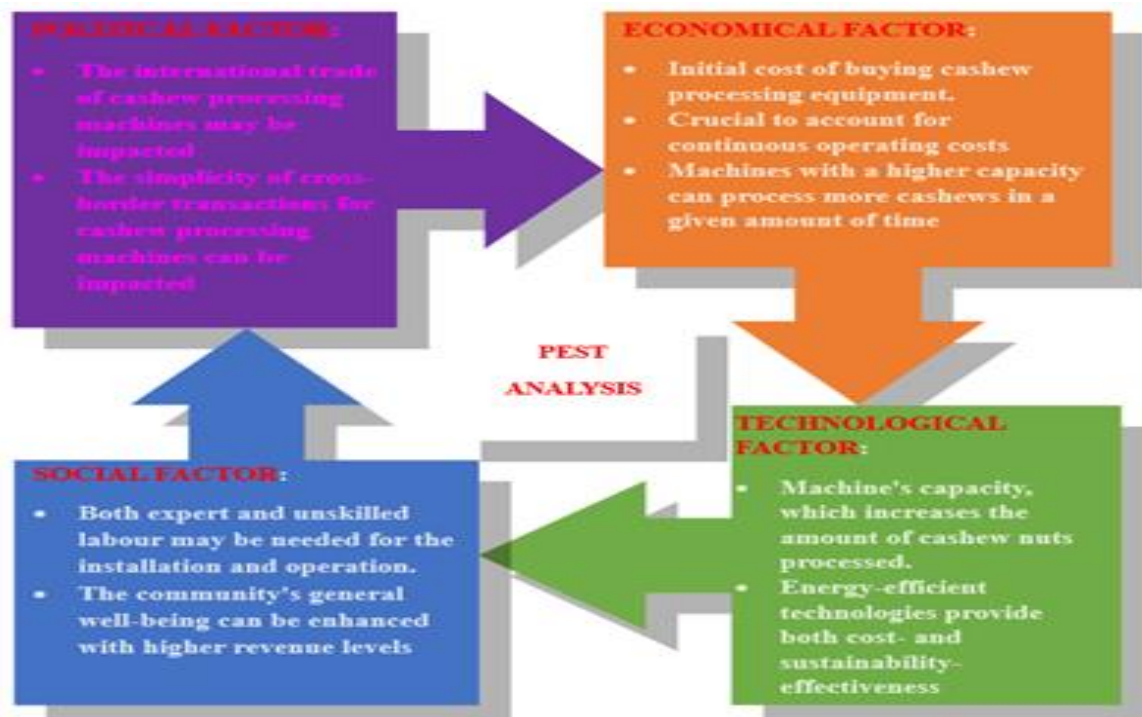


Figure 2 Pest Analysis



Conclusion

In conclusion, the industry has changed as a result of the incorporation of sophisticated cashew processing equipment. By increasing productivity, these devices lower labor costs, guarantee consistent quality, and raise food safety regulations. Their overall benefits are further enhanced by cost savings and sustainability initiatives, which enable businesses to fulfill the ever-increasing demands of their clientele. The cashew processing industry is poised for sustained innovation and global competitiveness as technology advances.

References

- [1]. Adewuyi Festus, Akinfenwa Ayobami, Oyetunji Ropo (2022) “Development of Cashew Nut Processing Machine”, Journal of Engineering Studies and Research, 6 Vol. 28 No. 1
<https://www.jesr.ub.ro/1/article/view/320>
- [2]. C. Ogbonnaya, J.I. Orisaleye, O. Damisa, S.J. Ojolo, (2010) “Design and development of cashew nut shelling machine”, Journal of Engineering, Design and Technology, Volume 8, Issue 2
<http://dx.doi.org/10.1108/17260531011062528>
- [3]. Alagusundaram K, Karthickumar, Paramasivan, Sinija V R, (2014) “Indian Cashew Processing Industry- An overview”, Journal of Food Research and Technology Vol 2, Issue 2
https://www.researchgate.net/publication/313164685_Indian_Cashew_Processing_Industry-An_overview
- [4]. N. Hubballi, P.L. Saroj, Sh. Venkatesh. (2015) “Advances in Cashew Production Technology” <https://cashew.icar.gov.in/wp-content/uploads/2017/02/e-book-24-1.pdf>
- [5]. S. MuthuKumar, V. Ponnuswami, K. Padmadevi, CASHEW INDUSTRY IN INDIA
<https://doi.org/10.17660/ActaHortic.2015.1080.10>