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RESEARCH PAPER

Business Viability and Market Linkages of Groundnut Value Added Products of Nagarkurnool FPO (Nagarkurnool) and Kashyam FPO (Wanaparthy) in Telangana

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ABSTRACT

The study evaluates the business viability and market linkages of major groundnut value-added products, including cold-pressed groundnut oil, groundnut chikki, and raw groundnut kernels. Key financial metrics such as cost, revenue, profitability, and benefit-cost (B:C) ratio are analysed to determine economic feasibility. The findings indicate that Cold-Pressed Groundnut Oil has a modest B:C ratio of 1.05, highlighting the need for improved market linkages and operational efficiencies to enhance profitability. Groundnut Chikki, despite its low investment and seasonal production, shows potential with a B:C ratio of 1.06, but higher fixed costs and limited branding impact margins. Raw groundnut kernels, with a B:C ratio of 1.10, offer the highest profitability among alternatives. However, price volatility and market competition pose significant challenges. The SWOT analysis identifies strengths such as access to raw materials and government support, alongside weaknesses like limited processing infrastructure and branding. Market linkages through direct customer sales, wholesale distribution, and retail partnerships highlight the FPO's role in supply chain integration. Strengthening branding, digital marketing, and collaborations can further enhance market reach. The study underscores the importance of strategic interventions to improve business viability and long-term sustainability for groundnut value-added products.

HIGHLIGHTS

- All three products—cold-pressed groundnut oil, groundnut chikki, and raw groundnut kernels—show positive Benefit-Cost (B:C) ratios, indicating viability. However, profitability remains constrained due to high raw material costs, operational expenses, and limited economies of scale.
- Direct sales to consumers offer higher margins but are limited in scale, whereas wholesale and retail channels provide wider market access but reduce profit margins. Strengthening branding, expanding digital marketing, and forming partnerships can enhance market reach and profitability.
- Limited processing facilities, financial constraints, and supply chain inefficiencies hinder FPO growth. Strategic investments in machinery, working capital, and branding, along with government and institutional support, can improve sustainability and competitiveness.

Keywords: FPOs, Groundnut Value-Added Products, Market Linkages, Farmer Producer Organizations (FPOs), Business Viability, Benefit-Cost Ratio (B:C Ratio), Agribusiness Marketing

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Groundnut, also known as peanut, is a vital source of protein (25%) and oil (40%), making it a key component in daily diets across the world (Yimam, 2015). It is widely consumed in various forms-raw, roasted, oil, and butter, offering both nutritional value and culinary versatility. Additionally, groundnut plays an important role in rural livelihoods and food security (Adinya, 2009). In India, area under groundnut cultivation in 2023-24 was 4.72 million hectares, which is notable decline (3.71%) compared to previous year (DA&FW, 2023). As per peanut export data, India exported 680,698.61 metric tonnes of groundnuts worldwide in 2023–2024, worth INR 7,135.35 crore, or 860.68 USD million. The top Indian peanut export markets are Indonesia, Vietnam, Philippines, Malaysia, Thailand, the United Arab Emirates, and Bangladesh (APEDA, 2023).

Telangana is a key groundnut-producing state, with Nagarkurnool and Wanaparthy districts playing a crucial role in its cultivation. Groundnut, a vital oilseed crop, significantly contributes to farmers' livelihoods. However, its cultivation trends have shown fluctuations due to factors like climate variability, market dynamics, and input costs (Shruthi *et al.*, 2017). In Nagarkurnool, the area under groundnut cultivation varied from 42.7 thousand hectares in 2016-17 to 42.3 thousand hectares in 2023-24. In Wanaparthy, groundnut area sharply declined from 23 thousand hectares in 2016-17 to 8.6 thousand hectares in 2023-24, with production following a similar trend. However, yield improved, reaching 2,830 Kg/Ha in 2023-24 (Department of Agriculture, Telangana, 2023). These figures indicate that importance of groundnut as well existence of Farmer Producer Organizations (FPOs) in the area. FPOs play a vital role in enhancing the groundnut value chain in Telangana's key cultivation regions like Nagarkurnool and Wanaparthy. By promoting collective processing, value addition, and direct market access, FPOs help boost farmer incomes and rural livelihoods (Pathania *et al*. 2020). In the particular districts exist a lot of scope to adapt groundnut value addition and develop market linkages, thus the study conducted to explore business viability of these products.

The business viability and market linkages of groundnut value-added products are essential for assessing their profitability potential (Kapopo *et al*. 2012). This analysis focuses on three key products: cold-pressed groundnut oil, groundnut chikki, and raw groundnut kernels, with a detailed evaluation of their costs, revenues, and overall profitability. Ensuring the business viability of groundnut value-added products is crucial for FPOs to generate sustainable income, attract market linkages, and scale operations. Profitable ventures like groundnut oil, chikki, and peanut butter can significantly enhance farmer returns and strengthen the rural agri-economy. While several studies acknowledge the role of FPOs in improving farmer livelihoods, limited research specifically focuses on their effectiveness in value addition of groundnut in Telangana's prominent cultivation areas (Salokhe, 2016). There is a lack of comprehensive data on the economic viability, market linkages, and scalability of groundnut-based enterprises run by FPOs. Moreover, the challenges faced by FPOs in processing infrastructure, branding, and supply chain management remain underexplored, creating a gap in the research study.

MATERIALS AND METHODS

The research was conducted within the operational framework of a Nagarkurnool FPO (Nagarkurnool district) and Kashyam FPO (Wanaparthy district) engaged in groundnut processing and value addition. Primary data were collected through structured interviews and surveys with FPO members, entrepreneurs, and key stakeholders. The sample included 120 farmers (60 from each FPO) and 30 market linkage partners (15 from each FPO).

The study evaluates the business viability and market linkages based on major groundnut processing products in the study area; cold-pressed groundnut oil, groundnut chikki and raw groundnut kernels. The primary data collection method was employed to assess cost structures, revenue generation, profitability, and benefit-cost (B:C) ratios for each product.

RESULTS AND DISCUSSION

To evaluate the business viability, three key value-added products were considered: cold-pressed groundnut oil, groundnut chikki, and raw groundnut kernels. The cost, revenue, profitability, and benefit-cost (B:C) ratio of each product were analyzed. Additionally, the proportion of each

product's contribution to the overall operations was highlighted.

Product wise analysis

1. Cold press oil

Cold-pressed groundnut oil, also known as virgin groundnut oil, is natural, chemical-free oil extracted from groundnut kernels using a traditional method that involves minimal heat. This process helps preserve the oil's nutritional content, flavour, and aroma, making it a preferred choice for health-conscious consumers (Govindaraj and Jain, 2011).

Establishing a cold-pressed oil unit involves several initial costs, primarily related to the setup of the necessary infrastructure and machinery. The core investment includes purchasing cold-press machines, which were the main equipment used to extract oil from groundnuts. Nearly 200 Square meters land is required to set up unit. Entrepreneurs can start in their own land or rent. In the study area FPO established the processing unit in the leased land.

Table 1 showed that the total investment required for setting up the enterprise was ₹ 5,50,000. A major portion, 81.82 per cent, was allocated to machinery and equipment, highlighting its importance in the production process. The remaining 18.18 per cent was spent on other fixtures, which complemented the primary equipment. This data underscored the capital-intensive nature of the venture and the need to ensure optimal utilization of machinery to achieve better returns on investment.

Table 1: Establishment of cold press unit in leased land

Sl. No	Particulars	Amount (₹)	Percentage
1	Machinery and equipment	4,50,000.00	81.82
2	Other fixtures	1,00,000.00	18.18
	Total	**5,50,000.00**	**100**

Operational Cost incurred in processing of groundnut cold pressed oil

The operational costs of producing cold-pressed groundnut oil included raw material procurement, primarily groundnut seeds, along with expenses for machine maintenance, filtration, and packaging. Labor wages, utility bills (electricity, water, fuel), and quality control measures further added to the cost structure. Additionally, packaging and transportation expenses ensured product quality and market reach. Efficient cost management

Table 2: Cost table of groundnut cold press oil unit

Sl. No.	Particulars	Amount (₹/year)	Amount (₹/tonne)	Percentage
	Variable cost (VC)			
1	Cost of raw materials (for 5.00 tonnes)	5,00,000.00	1,00,000.00	66.16
2	Cost of packaging materials	54,666.00	10,933.20	7.23
3	GST on raw materials	17,500.00	3,500.00	2.32
4	Transportation cost	22,000.00	4,400.00	2.91
5	Electricity charges	15,000.00	3,000.00	1.98
6	Water charges	450.00	90.00	0.06
7	Repairs and maintenance	5,600.00	1,120.00	0.74
8	Overhead expenditure	9,300.00	1,860.00	1.23
9	Wages (3 workers)	1,31,250.00	26,250.00	17.37
	Total variable cost (TVC)	7,55,766.00	1,51,153.20	100
	Fixed cost (FC)			
10	Depreciation on machinery	55,000.00	11,000.00	42.18
11	Rents	24,000.00	4,800.00	18.40
12	Salaries	50,000.00	10,000.00	38.34
13	Insurance premiums	1,400.00	280.00	1.07
	Total fixed cost (TFC)	1,30,400.00	26,080.00	100
	Total cost (TC)	8,86,166.00	1,77,233.20	

was crucial for profitability and maintaining high production standards.

Processing costs incurred in cold-pressed groundnut oil production were shown in Table 2. The variable costs, dependent on production volume, totalled ₹ 1,51,153.20 per tonne, while fixed costs amounted to ₹ 26,080 per tonne. This resulted in a total production cost of ₹ 1,77,233.20 per tonne. Raw materials, costing ₹ 1,00,000 per tonne, were the largest expense, comprising 66.61% of the total variable cost. Wages, based on local rates, accounted for 17.37% of the variable cost. Among fixed costs, machinery depreciation (42.18%) was the highest contributor, followed by salaries (38.34%).

Table 3: Returns and Profitability in processing of cold press groundnut oil

Sl. No.	Particulars	Unit	Total
1	Quantity of seeds processed	Tonne	5
2	Quantity of oil obtained per year	Kilogram	2,000
3	Price	₹/kg	420
4	Total cost	₹/year	8,86,166
5	Total cost	₹/tonne	1,77,233
6	Returns from oil	₹/year	8,40,000
7	Returns from oil	₹/tonne	1,68,000
8	Returns from by-product	₹/year	87,500
9	Returns from by-product	₹/tonne	17,500
10	Gross Returns	₹/year	9,27,500
11	Gross Returns	₹/tonne	1,85,500
12	Net Return (6+8-4)	₹/year	41,334
13	Net Return (7+9-5)	₹/tonne	8,266.80
	BC ratio		**1.05**

An overview of the returns and profitability of the cold-pressed groundnut oil unit was provided in Table 3. Processing 5 tonnes of groundnuts yielded 2,000 kg of oil. The unit operated 8 hours daily for 150 days, constrained by the agricultural season. Established a year earlier, it was still in its early stages, focusing on market expansion. The production cost was ₹ 1,77,233 per tonne, while gross returns amounted to ₹ 1,68,000 per tonne, resulting in a net profit of ₹ 8,266.80. The Benefit-to-Cost (BCR) ratio of 1.05 indicated modest returns, primarily due to its recent establishment. As the FPO scaled up, spread fixed costs, and enhanced efficiency, profitability was expected to improve.

2. Groundnut Chikki

Groundnut chikki, a nutritious and affordable snack, holds strong business potential due to its growing demand and simple production process (Adebayo *et al.* 2020). With minimal investment and accessible raw materials, it offered opportunities for profitability, especially through effective production, innovative packaging, and targeted marketing. Farmers were processing chikki in the season only. The below mention values were for one season *i.e.* 2 months.

Table 4: Costs and returns of groundnut Chikki

Sl. No.	Particulars	Amount in (Rs.)
1	Production Capacity	2 tonnes
2	Raw Material Cost (Groundnuts + Jaggery @ ₹ 90/Kg + ₹ 30/Kg)	2,40,000
3	Processing Cost (₹)	40,000
4	Packaging and Distribution (₹)	20,000
5	Labor Cost (₹)	30,000
6	Overheads (₹)	10,000
7	Total Costs (₹)	3,40,000
8	Net Profit (₹)	20,000
9	Selling Price per Kg (₹)	180
10	Chikki Revenue (₹)	3,60,000
11	BC ratio	1.06

Table 4 presents the financial analysis of chikki production with a 2-tonne capacity. Raw materials were the highest expense at ₹ 2,40,000, followed by processing (₹ 40,000), labour (₹ 30,000), packaging and distribution (₹ 20,000), and overheads (₹ 10,000). The total production cost was ₹ 3,40,000, while revenue at ₹ 180 per kg reached ₹ 3,60,000, yielding a net profit of ₹ 20,000. The Benefit-Cost (BC) ratio stood at 1.06, reflecting modest profitability due to high fixed costs and limited economies of scale.

To enhance profitability, bulk procurement of raw materials, improved labour efficiency, and energy-saving processes were crucial. Value addition through flavours, better packaging, and branding could attract premium customers. While viable, scaling operations and refining market strategies were key to long-term growth and sustainability.

3. Raw Groundnut Kernels

Raw groundnut seeds and kernels cater to high

demand in the food, oil, and agriculture sectors (Charyulu *et al.* 2023). Supplying quality seeds to farmers ensures a sustainable production cycle, while value addition and efficient sourcing can maximize profitability. FPO was purchased the pods @ ₹ 70/kg from farmers, and decortication, sorting, grading and other charges were ₹ 30/kg, so totalled to amount ₹ 100/kg of groundnut kernels.

Table 5: Costs and Returns of groundnut kernels

Sl. No.	Particulars	Amount in (₹)
1	Production Capacity (Tonnes)	32
2	**Costs**	
3	Raw Material Cost (₹ 100/Kg)	32,00,000
4	Transportation cost	20,000
5	Packaging and Distribution (₹)	15,000
6	Labor Cost (₹)	15,000
7	Overheads (₹)	25,000
8	Total Costs (₹)	**32,75,000**
9	**Revenue**	
10	Selling Price per Kg (Seeds)	Rs. 110
11	(Consumption)	Rs. 120
12	Seeds (25 tonnes @ ₹ 110/Kg)	27,50,000
13	Consumption (7 tonnes @ ₹ 120/Kg)	8,40,000
14	Total Revenue (₹)	**35,90,000**
15	Net Profit (₹)	**3,15,000**
16	BC ratio	1.10

The financial analysis of raw groundnut kernel production, based on a 32-tonne capacity, was outlined in Table 5. Total costs amounted to ₹ 32,75,000, with raw materials being the major expense at ₹ 32,00,000. Other costs included transportation (₹ 20,000), packaging and distribution (₹ 15,000), labour (₹ 15,000), and overheads (₹ 25,000). Revenue was generated by selling 25 tonnes of seeds at ₹ 110/kg (₹ 27,50,000) and 7 tonnes for consumption at ₹ 120/kg (₹ 8,40,000), totalling ₹ 35,90,000. This resulted in a net profit of ₹ 3,15,000 and a Benefit-Cost (BC) ratio of 1.10, reflecting modest profitability due to low-margin sales to farmers.

To improve financial performance, efforts were focused on reducing raw material and operational costs, optimizing transportation and packaging, and increasing revenue through better pricing. Expanding production capacity and strengthening market linkages were also key strategies aimed at achieving long-term profitability and sustainability.

Market linkages for value-added groundnut products

The FPOs had employed various channels to market their value-added groundnut products, balancing market reach and profitability (Rao, 2024). These included direct sales to customers, bulk sales to wholesalers and traders, retail partnerships, and seed distribution to farmers. Each channel had offered unique benefits and challenges, contributing to the FPOs' overall marketing strategy. The main marketing channels were:

1. Farmer → FPO → Direct Customer

This channel involved selling products like cold-pressed groundnut oil and chikki directly to customers.

Advantages

1. Eliminates intermediaries, increasing profit margins and overall revenue.
2. Enables the FPO to adapt quickly to customer preferences and market trends.
3. Direct interaction builds trust, provides valuable feedback, and strengthens brand loyalty.

Challenges

1. Scalability is limited due to dependence on local market demand, which can be quickly saturated.
2. Farmer → FPO → Wholesaler

The FPO sells products in bulk to wholesalers, who distribute them to retailers and end consumers.

Advantages

1. Ensures steady demand, reducing inventory and storage risks.
2. Allows the FPO to focus on production while wholesalers handle marketing and distribution.
3. Requires minimal customer relationship management, saving time and resources.

Challenges

1. Lower profit margins due to wholesaler markups.

2. Prices are influenced by market fluctuations, limiting pricing control.

3. Farmer → FPO → Retailer

Retailers purchase directly from the FPO and sell products in local and regional outlets, expanding consumer access.

Advantages

1. Increases product visibility and reaches a broader market.
2. Provides stable revenue and strengthens brand presence.

Challenges

1. Requires efficient logistics and consistent quality control.
2. Maintaining retailer relationships is crucial for sustained market presence.
3. Payment delays from retailers can impact cash flow.

4. Farmer → FPO → Farmer (Seed Groundnut)

The FPO processes and sells groundnut kernels as seeds to member farmers for future cultivation.

Advantages

1. Strengthens farmer loyalty and trust within the FPO network.
2. Supports sustainable farming by ensuring access to quality seeds.

Challenges

1. Lower profit margins due to seed sales.
2. Farmers prefer buying from the FPO but hesitate to sell back, causing raw material shortages.

5. Farmer → FPO → Trader (Groundnut Kernels)

The FPO sells bulk raw or processed groundnut kernels to traders for regional, national, or export markets.

Advantages

1. Faster stock turnover improves cash flow and reduces storage costs.
2. Access to larger markets, including export opportunities.
3. Higher margins compared to selling directly to farmers.

Challenges

1. Traders have strong bargaining power, reducing the FPO's pricing leverage.
2. Strict quality and grading standards increase operational costs.

CONCLUSION

The business viability of value-added groundnut products—cold-pressed groundnut oil, groundnut chikki, and raw groundnut kernels—demonstrated promising potential with strategic improvements. Cold-pressed groundnut oil production involved a total cost of ₹ 1,77,233 per tonne, with raw material costs comprising 66.16% of the variable costs. Although the net return per tonne was ₹ 8,266.80 and the B:C ratio stood at 1.05, market expansion and efficiency improvements were expected to enhance profitability. Groundnut chikki production, with a B:C ratio of 1.06, benefited from low operational costs but faced narrow margins due to high raw material expenses. Increasing production scale and optimizing raw material procurement were considered effective for improving financial outcomes. Raw groundnut kernels, processed at ₹ 100/kg and sold at ₹ 110–120/kg, offered the highest profitability, with a B:C ratio of 1.10 and a net profit of ₹ 3,15,000 per season. Market linkages were critical for profitability, with direct-to-customer, wholesale, and retail channels offering distinct advantages and challenges. Direct sales maximized profits but limited scalability, while wholesale and retail channels improved market reach but reduced margins.

Overall, while the groundnut value-added product sector was found to be viable, strategies such as cost optimization, branding, digital marketing, and supply chain efficiencies were essential for achieving sustainable growth and profitability.

REFERENCES

Adebayo, S.A., Olorunfemi, O.D., Siyanbola, F.I. and Malomo, J.O. 2020. Groundnut processing techniques used by processors in Edu Local Government Area, Kwara State, Nigeria. *FUW Trends in Science & Technol. J.*, **5**(1): 117-121.

Adinya, I.B. 2009. Analysis of costs-returns profitability in groundnut marketing in Bekwarra Local Government Area, Cross River State, Nigeria. *The Journal of Animal & Plant Sciences*, **19**(4): 212–216.

Agricultural and Processed Food Products Export Development Authority. 2023. Groundnut. Retrieved from https://apeda.gov.in/groundnut

Charyulu, D.K., Reddy, D.S., Reddy, V.R., Mamatha, K., Govardhan, M., Gajanan, S. ... and Janila, P. 2023. Groundnut value chain innovations to enhance farmer profitability and promote oil, food and confectionery industries in Telangana: Mapping groundnut technologies in Telangana (Baseline survey) report (Research Bulletin No. 29).

Department of Agriculture, Telangana. 2023. Official website. Retrieved from https://www.agri.telangana.gov.in/

Directorate of Agriculture and Farmers Welfare. 2023. Official website. Retrieved from https://upag.gov.in/

Govindaraj, G. and Jain, V.K. 2011. Economics of non-oil value chains in peanut: A case of peanut-candy and salted-peanut small-scale units in India. *Journal of Agricultural Sciences, Belgrade*, **56**(1): 37–54.

Kapopo, V. and Assa, M. 2012. Economic analysis of groundnut production in Kasungu District, Malawi: A production economics approach.

Pathania, A. 2020. Farmers producer organization: Can transform the face of agri-business in India. *Journal of Pharmacognosy and Phytochemistry*, **9**(5S): 745–750.

Rao, S.S. 2024. An overview of FPOs in India. In Agribusiness – A managerial perspective (pp. 31–45).

Salokhe, S. 2016. Farmers producer organization for effective linkage of small producers with market. *International Journal of Applied Research*, **2**(10): 142–146.

Shruthi, G., Rao, B.D., Devi, Y.L. and Masih, J. 2017. Analysis of area, production and productivity of groundnut crop in Telangana. *Agricultural Science Digest – A Research Journal*, **37**(2): 151–153.

Yimam, M. 2015. Groundnut market and value chain analysis study report.