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Prospects and potentials for Soybean processing at Indore

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ARTICLE ID: 078

In India, Soybean is an introduced crop and a major source of vegetable protein. It is a major Kharif crop of Malwa region of M.P. presently, the soybean is contributing 42 per cent share of total oil seed and 22 per cent to total oil production in the country. The survey was conducted in Indore regarding the processing of soybean. It was found that soybean processors mainly engaged in oil extraction followed by soy nuggets. The comparative study was done between soybean processing and production unit.

Table 1. Comparative profitability of soybean processing and production unit

Particular	Processing unit (n=15)	Production unit (n=20)	Difference	Times
Cost (Rs/q)	3313.98	2447.53	866.44	1.35
Net return (Rs/q)	2236.39	766.39	1470.00	2.91
Rate (Rs/q)	9243.33	3145.00	6098.33	2.93
BEP at Yield (Q/unit)	3731.71	17.22		
BEP at Price (Rs/q)	3731.71 (40.37%)	2447.53 (77.82%)		
BC ratio	1.58	1.34		

Comparative profitability of soybean processing and production unit

In case of processing unit, the cost incurred was much higher than production unit around 1.35 times due to high initial investment as well as high recurring cost. However, net income realized by processing unit (Rs 2236.39/q) was more than production unit (Rs

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766.39/q) as sown in table 1. Moreover, the rate of processed products (Rs 9243.33/q) was more than raw soybean (Rs 3145/q). However, the break even at yield was achieved much earlier than actual yields. Thus, both the units were economically viable. The benefit cost ratio was higher for processing unit (1.58) than production unit (1.34) due to more benefit in processing

The driving and restraining forces of soybean processors through force field analysis

The forces which promote the soybean processing are driving forces whereas those forces which limit or restrict the soybean processing are restraining forces. The forces were identified for both driving and restraining with the major dimensions i.e. Technical, Infrastructure, Market, Finance, Legal and Socio-personal factors. The Force Field Analysis was used to identify the Driving and restraining forces for potato processing.

1. **Technical Dimension of Force Field Analysis:** To soybean processors, the fresh soybean of suitable variety and skilled labour was available. Access to technical information and new technology was available from ICAR- Indian Institute of Soybean Research (IISR), Indore and Soybean Processors Association of India (SOPA), Indore. However, machinery affordability was an issue due to high cost on machines. Soybean processors were found interested in training programmes, enterprise diversification support and follow up programmes.
2. **Infrastructure Dimension of Force Field Analysis:** Institutional support was available to soybean processors at Indore from ICAR-IISR and SOPA. The logistic, packaging and grading facility were available. There was no issue of interrupted power supply, storage facility and machinery availability. Due to high initial investment cost many soybean processors were facing problem.
3. **Market Dimension of Force Field Analysis:** Soybean processors were getting the raw material both from farmers directly and even from wholesaler. The forward marketing was available for value added products. Some of the processors were engaged in online marketing and marketing information was available. Distance selling of value added products i.e. oil and nugget was observed. The price fluctuation in raw material was found. Problem in negotiating contract and demand prediction was an issue. Existence of middlemen was seen.

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4. **Finance Dimension of Force Field Analysis:** Banking, insurance and loan facility were available. Special credit facility to women was available but getting subsidy was cumbersome process. The long payback period in investment was observed.
5. **Legal Dimension of Force Field Analysis:** Most of the processors registered their enterprise. The quality and safety standards were followed. Processors believed that GST and digital payment promoted trade transparency. Demonetization affected labour payment and turnover.
6. **Socio-personal Dimension of Force Field Analysis:** Family support was observed. Most of the processors were high moderate risk taker and innovative. Courses related to food processing and entrepreneurial based education was available. Differences based on caste and politics was not found. Those who were engaged in soybean processing were having high society values.

Table 2. Representation of driving and restraining forces for soybean processors as per Wilcoxon sign test

Respondent	Cases	N	Mean rank	Z
Soybean Processor	DF>RF	29	15	-4.708 (p<0.001)
	RF>DF	0	0	
	DF=RF	1	0	

The driving force (124.06) was found to be significantly higher than restraining forces (56.73) at test statistic Z=-4.708; p<0.001 as indicated in Table 2. It can be inferred that entrepreneurial environment is favourable for Soybean processing at Indore.

Conclusion

As discussed, the soybean processing is more profitable than soybean production. Therefore, soybean processing can be good option as start up for youth. The driving forces are more promoting than restraining forces for soybean processing. Hence, stress should be given on value addition of soybean produce. The value addition will not only increase the profitability but also enhances the shelf life of the produce.

Note: the data mentioned in the paper is based on research conducted by researcher which is not published anywhere.