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Economics of processing of cornflakes in district Etah (U.P)

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Abstract

Corn flakes are breakfast cereals made by combining milled corn with sugar. Milled corn products are believed to enable easier utilization of vitamins and nutrients as compared to their non-milled counterparts. The major ingredients include milled corn, sugar, iron, high fructose corn syrup and vitamins (A, B, C, D and E). The input-output ratio was calculated as 1:1.70 respectively while cost of production of cornflakes per quintal came to Rs.3737.00.

Keywords: Processing cost of production and input-output ratio cornflakes etc.

Introduction

Corn flakes, or cornflakes, are a breakfast cereal made by toasting flakes of cereal, usually maize (known as corn in the U.S.). The cereal was created by John Harvey Kellogg in 1894 as a food that he thought would be healthy for the patients of the Battle Creek Sanatorium in Michigan where he was superintendent. The breakfast cereal proved popular among the patients and the Kellogg Company (Kellogg's) was set up to produce corn flakes for the wider public. A patent for the process was granted in 1896. Basically, Cornflakes is prepared from maize; this is the main raw material. Flavors, like sugar or salt are also added. Maize, the main raw material, is itself a corn grain. Corn flakes have very good taste. Corn Flakes can be manufactured either of the two white or yellow corns. The only difference is that flake formed using yellow corn is more dark in color.

For the current survey, the proposed data was collected from different locations of Etah district like; Pop Corn and Corn flour processing unit establishment. The Corn flakes unit could not find in the Etah district, so data was collected from the Shahjahanpur (Nenimemi foods pvt ltd) (UP). Nenimemi foods pvt limited plant is established at Sahajanpur District. Nenimemi is a big plant of cornflakes and other maize products.

Material and Methods

The data regarding processing of the cornflakes was done only one big establishment of cornflakes unit based on Shahjahanpur (UP). Nenimemi Foods private limited, Shahjahanpur (UP). Nenimemi foods have plant preparing cornflakes in large quantity with some other maize products. The whole data regarding processing of cornflakes was collected, validated and analyzed interpreted as per norms presented the economics of cornflakes per quintal, cost of production per quintal & benefit cost ratio of cornflakes processing.

Result and Discussion

Investment on land & building in cornflakes processing unit/month

Table 1: "Total investment on land & building in corn flakes processing unit/month"

S. No.	Particular	Amount (in Rs)
1	Total land required 1000 sq mts. @ Rs. 1000/=sq. mt.	1000000.00
2	Production shed 250 sq mt @ Rs 4000/sq mt	1000000.00
3	Raw material store 80 sq mt @ Rs 4000/sq mt	320000.00
4	Finished goods store 100 sq mt @ Rs 4000/sq mt	400000.00
5	Admn. Building 80 sq. mt @ Rs 4000/sq mt	320000.00
6	Miscellaneous	150000.00
	Total	3190000.00

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The present study showed that the total investment on land and building in corn flakes processing unit was Rs 3190000. Which include 1000 sq. mtr Land area at the rate of 1000/ sq. mtr. The total land cost is Rs. 1000000. 250 sq/mtr areas were covered as a production shed which approx cost was Rs. 1000000. For the establishment of Raw material store Rs 320000 invested for set up of store. For the setup of finished

goods store the total money utilized Rs400000, while set up of administrative building Rs. 320000 was required other miscellaneous cost was Rs.150000.

Investment on Plant & Machinery in Corn flakes processing unit/month

Table 2: "Total investment on plant & machinery in corn flakes processing unit/month"

S. No.	Particular	Quantity/ Number	Amount (in Rs)
1	Silo for storing corn grain constructed by brick & R.C.C.	1	90000.00
2	Air classifiers with all accessories	2	108000.00
3	Separator	3	180000.00
4	Storage bins	6	234000.00
5	Weighing balance	1	45000.00
6	Rotary steam cooker	1	198000.00
7	Agitator or lump breaker	1	117000.00
8	Pan cooker or steamer	1	135000.00
9	Germ separator	1	72000.00
10	Heavy flaking machine	1	450000.00
11	Rotary oven	1	360000.00
12	Conveyor	1	72000.00
13	Inspection conveyor	1	54000.00
14	Automatic Packing machine	1	450000.00
15	Screening and cooling equipment	1	63000.00
16	Mixer for flavoring syrup	1	22500.00
17	Boiler cap: 500 kgs/hr	1	450000.00
18	Shifter	1	58500.00
19	Other Miscellaneous		67500.00
	Total		3226500.00

The current study shown that the total investment on plant & machinery in Corn flakes processing unit came to Rs. 3226500.00

Investment on other fixed asset in corn flakes processing unit/month

Table 3: "Investments on other fixed assets in corn flakes processing unit/month"

S. No.	Particular	Amount (in Rs)
1	Office equipment, furniture plus other equipment & accessories	135000.00
2	Installation costs for water, electricity, fuel etc.	297000.00
3	Pre-operative & preliminary expenses	45000.00
4	Tech. know- how & consultancy	45000.00
5	Delivery van	225000.00
6	Miscellaneous	13500.00
7	P-4 computer, printer, laptop etc.	112500.00
	Total	873000.00

There was some other investment required on fixed asset which have been required a total Rs 873000. Office equipment, furniture and other equipment required Rs 135000, and installation costs required Rs. 297000, pre operative and preliminary expenses required Rs. 45000, technology and consultancy charges required Rs. 225000,

delivery van charges was Rs. 225000, computer printer laptop charges were Rs. 112500 and other miscellaneous charges were Rs. 13500.

Investment on Fixed Capital in corn flakes processing unit/month

Table 4: "Investment on Fixed Capital in corn flakes processing unit/month"

S. No.	Particular	Amount (in Rs)
1	Land & Building	3190000.00
2	Plant & machinery	3226500.00
3	Other fixed assets	873000.00
	Total	7289500.00

Fixed capital is the value which has been spend on land & building, plant & machinery and other fixed asset and the total investment on this segment was Rs. 7289500.00.

Investment on monthly salary & wages requirement in Corn flakes processing unit

Table 5: "Investment on monthly salary & wages requirement in Corn flakes processing unit."

S. No.	Particular	Quantity/Number	Amount (in Rs)
1	Manager must be MBA degree holder	1	14400.00
2	Food technologist cum works manager	1	10800.00
3	Supervisors	1	7200.00
4	Accountant	1	6300.00
5	Marketing personnel	1	6300.00
6	Skilled worker	6	32400.00
7	Semi-skilled worker	5	22500.00
8	Unskilled worker	8	28800.00
9	Store keeper	1	5400.00
10	Peon /watchman	2	7650.00
11	Clerk/typist	1	4500.00
	Total		146250.00

The monthly salary & wages requirement is very essential for the set up of typical corn flakes unit and it include variable human resources and man power. On the basis of their number and expenses on this segment was Rs 146250.00

Investment on Utilities and overheads in Corn flakes processing unit

Table 6: "Investment on Utilities and overheads in Corn flakes processing unit per month."

S. No	Particular	Amount (in Rs)
1	Power consumption of 5000 kwatt hrs @ Rs. 4.50 per kwatt hr.	20250.00
2	Water consumption of 200 KLS @ Rs 2.5 per KL	450.00
3	Fuel for boiler 800 ltrs @ Rs. 35/ per Ltr	25200.00
4	Repairs & maintenance	9000.00
5	Stationary, postage, telephone etc.	5400.00
6	Conv. & transportation etc.	27000.00
7	Publicity & saler promotion	135000.00
8	Miscellaneous	18000.00
	Total	240300.00

The Utilities and overheads investment required for the smooth running of typical corn flakes unit and it include variable factors like power consumption, water consumption, fuels, repair & maintenance work, stationary, transportation

Table 9: "Total returns received from corn flakes".

S. No	Particular	Amount (in Rs)
1	By sale of 240 q of corn flakes @ 7500/q	1800000.00
2	Value of by product (cattle feed)@1700/q	102000.00
3	Gross return	1902000.00
4	Total cost of incurred	1121151.00
5	Net Income	780849.00
6	Cost of production/quintal (Rs/q)	3737.00
7	Input-output ratio	1:1.70

It is quite evident from table-9 that the gross income was Rs. 1902000.00, Net income was Rs. 780849.00, total cost incurred was Rs. 1121151.00 and input-output ratio was

charges, branding of product and other miscellaneous items, which required Rs. 240300.00

Total Investment on monthly working capital in Corn flakes processing unit

Table 7: "Total Investment on monthly working capital in Corn flakes processing unit"

S. No.	Particular	Amount (in Rs.)
1	Maize (grain) 30 M.T. @ Rs. 17000/MT.	510000.00
2	Sugar 10 MT @Rs 30000/MT	30000.00
3	Salt 0.4 MT @ 7000/MT	2800.00
4	Packing materials and others miscellaneous viz flavor malt etc.	50000.00
5	Salary & wages	146250.00
6	Utilities and overheads	240300.00
	Total	979350.00
Overhead costs/month		
1	Interest on working capital @ 10% per annum (for a month)	8161.00
2	Depreciation on fixed capital @ 10% (building and machinery) for a month	60746.00
3	Interest on fixed capital @ 12% per annum for a month	72895.00
	Total	141802.00
	Grand total	1121152.00

The monthly working capital is very essential requirement for the set up of typical corn flakes unit and it include total sum of Rs 979350.00. Total investment on working capital was Rs. 979350.00, investment on Salary & wages were Rs 146250.00 and Utilities & overheads include Rs. 240300.00. Total overhead cost was 1121152.00 as working capital on cornflakes processing unit.

Total capital investment

Table 8: "Investment on total capital in corn flakes processing unit/month"

S. No.	Particular	Amount (in Rs)
1	Total fixed cost	7289500.00
2	Total working capital for 1 month	979350.00
	Total	8268850.00

The total capital investment was in corn flakes processing unit was Rs 8268850.00, total fixed capital was Rs 7289500.00, and investment on total working capital for 1 month Rs 979350.00respectively.

Total returns received from corn flakes

calculated as 1:1.70 while cost of production of cornflakes per quintal came to Rs.3737.00.

Conclusion

Cornflakes are prepared from maize; this is the main raw material. Flavors, like sugar or salt are also added. Maize, the main raw material, is itself a corn grain. The input-output ratio was calculated as 1:1.70 respectively while cost of production of cornflakes per quintal came to Rs.3737.00. The benefit cost ratio analysis reflect that cornflakes processing fetched near about two lines return on interment of Re 1 is a beneficial ventures for forming communities as well trades 100.

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