
Financial Analysis of fruits and vegetable processing units in Kerala

DR. DEEJA.S

Guest Lecturer, Department of Commerce, St. Gregorios College, Kottarakara, Kollam District, Kerala

INTRODUCTION

The food processing sector is critical to India's development, for it establishes a vital linkage and synergy between the two pillars of the economy—Industry and Agriculture. India is the world's second largest producer of food and holds the potential to acquire the numero uno status with sustained efforts. The liberalization of the Indian economy and world trade and rising consumer prosperity has thrown up new opportunities for diversification in the food-processing sector and opened new vistas for growth. The growth of this industry will bring immense benefits to the economy, raising agricultural yields, enhancing productivity, creating employment and raising life-standards of a large number of people across the country, especially those in rural areas. The impetus given by the Government, State Agricultural Universities, State Departments of Agriculture and other organizations through the evolution and introduction of numerous hybrid varieties of cereals, legumes, fruits and vegetables and improved management practices have resulted in increased food production. However, the nation still faces the problem of the use of improper methods for the storage of food stuffs, leading to great wastage of the food produced. Furthermore, massive amounts of the perishable fruits and vegetables produced during a particular season result in a glut in the market and become scarce during other seasons. Neither can they be consumed in fresh condition nor sold at economically viable prices. Even though India is second largest producer of fruits and vegetables in the world after China, the present quantity of fruit and vegetable processing is very meager (around 2.2%) as compared to 80% in USA, 70% France, 80% Malaysia and 30% Thailand. The slow growth of Indian fruit and vegetable processing is still prevailing.

SIGNIFICANCE OF THE STUDY

There are 402 fruits and vegetable processing units in Kerala as per the official records of industrial department in 2012. The unavailability of quality raw materials, absence of technical expertise, hike of transportation cost and packing cost, financial constraints, severe competition, non upgradation of technology, underutilization of installed capacity, hike in wage rate and abnormal increase in production cost also affect the smooth functioning of fruit and vegetable processing units in Kerala. Working capital is the life blood and nerve center of a business. No business can run successfully without an adequate amount of working capital. Working capital is essential to maintain smooth running of business. Working capital refers to that part of the firm's capital which is required for financing short-term or current assets such as cash, receivables and inventories¹.

METHODOLOGY

Random sampling techniques were used for the present study. Based on the geographical features, Kerala is classified as south, central and north. As per this classification, Alappuzha, Ernakulam and Kozhikode district were selected respectively. The reason is the presence of four sectors of industries namely large scale, small scale, cottage and home scale sectors and also more number of processing units are located in these districts. Primary data were collected from the selected processing unit with the aid of pre-tested interview schedule.

Objectives

- To study the working capital of the fruit and vegetable processing units.
- To study the fixed asset management practices of the fruit and vegetable processing units.

Analysis Results

Total Current Assets

Total current assets include value of raw material consumption to produce products, value of semi-finished and finished goods, cash in hand and at bank, and amount receivable. Total current asset of the sample units is presented below.

Table 1
Distribution of total current assets of sample units based on selected variables

Selected Variables		Mean	SD	N	F	P
Sectors	Large scale sector	182209677.7	75065310.4	9	166.68**	0.000
	Home scale sector	1607035.7	952077.5	28		
	Small scale sector	8159000.0	3761459.2	23		
	Cottage sector	5740120.9	1858002.2	33		
District of the units	Alappuzha	21245006.6	59187487.8	15	0.00	0.996
	Ernakulam	22016183.4	57147890.7	49		
	Kozhikode	22913689.7	58390579.6	29		
Number of products produced	1	12931945.5	47569979.9	55	5.19**	0.007
	2	12807263.2	24469744.5	19		
	> =3	58282636.2	87301893.1	19		
Category	Vegetable	10236022.7	37973962.0	44	4.55*	0.013
	Fruit	18605099.6	49215722.1	30		
	Both	55443531.5	88621514.3	19		

Source: Primary Data

** Significant at 0.01 level

* Significant at 0.05 level

Total current asset is found to be high in large scale sector, followed by small scale sector, cottage sector and home scale sector. The average value of total current asset of the sector wise classification of sample units have significant variation at 0.01 level (F=166.68). District wise classification does not have any significant variation. Sample units that are producing three

or more than three products, have their total current asset high (58282636.2) and low in two product producing units (12807263.2). Sample units that produce both products have their total current asset high (55443531.5) followed by fruit products producing units and finally vegetable products producing units. The average value exhibit significant variation at 0.05 level for the sample units that produce various products (F=4.55).

Significant variation is found among the sector, number of products produced and category. Scheffe multiple comparison examines the variation on pair basis is presented below.

Table 2
Scheffe multiple comparison of average value of total current assets of sample units based on selected variables

Selected Variables		Pair	F	Sig.
Sectors	Large scale sector (A)	A & B	144.77**	0.00
	Home scale sector (B)	A & C	127.7**	0.00
	Small scale sector (C)	A & D	143.51**	0.00
	Cottage sector (D)	B & C	0.35	0.79
		B & D	0.17	0.92
		C & D	0.05	0.98
Number of products produced	1 (A)	A & B	0	1.000
	2 (B)	A & C	4.8*	0.010
	>=3 (C)	B & C	3.3*	0.042
Category	Vegetable (A)	A & B	0.2	0.815
	Fruit (B)	A & C	4.5*	0.014
	Both (C)	B & C	2.6	0.080

Source: Primary Data

** Significant at 0.01 level

* Significant at 0.05 level

Scheffe multiple comparison of total current asset exhibit significant variation between large scale sector with home scale sector, small scale sector and cottage sector at 0.01 level. Significance exists between three or more than three products producing units with single product and with two products producing units at 0.05 level. Units that are producing vegetable products with both product producing units exhibit significant variation at 0.05 level (F=4.5). From that, it can be inferred that, large scale sector, units that are producing three or more than three products and both product producing units have the total current asset high.

Total Current Liabilities

A liability that has to be cleared as soon as possible is included in current liability. Items included in the current liabilities are accounts payable, bank overdraft, and other outstanding expenses. Data relating to the accounts payable of the units is shown below.

Average total current liability of the sample units are presented below.

Table 3
Distribution of total current liabilities of sample units based on selected variables

Selected Variables		Mean	SD	N	F	P
Sectors	Large scale sector	81018444.4	36041171.9	9	148.04**	0.000
	Home scale sector	522753.6	235631.4	28		
	Small scale sector	1742521.7	679987.6	23		
	Cottage sector	1133411.4	414083.0	33		
District of the units	Alappuzha	9272071.7	31897805.5	15	0.12	0.886
	Ernakulam	7632114.3	20831071.0	49		
	Kozhikode	10628586.2	31116977.8	29		
Number of products produced	1	3932457.7	15857240.8	55	6.70**	0.002
	2	4628421.1	14630701.4	19		
	>=3	27213605.3	45242946.1	19		
Category	Vegetable	2602456.3	11186044.6	44	6.01**	0.004
	Fruit	7142603.3	20337037.3	30		
	Both	25920921.1	45725888.8	19		

Source: Primary Data

** Significant at 0.01 level

As per the table 3, mean value of total current liabilities are high in large scale sector (81018444.4) followed by small scale sector(1742521.7), cottage sector (1133411.4) and finally home scale sector (522753.6). The mean value of total current liability exhibits significant variation at 0.01 level. District wise classification of sample units does not show any variation, but Kozhikode district have high total current liabilities. Sample units that produce three or more than three products have high current liabilities (27213605.3) than two product producing units (4628421.1) and single product producing units. Mean value of current liabilities shows variations at 0.01 level where $F=6.70$. Total current liabilities are low for those units that produce vegetable products(2602456.3), fruit products producing units (7142603.3) and high for those units that produce both products. Here also mean value of total current liability exhibit significant variation at 0.01 level $F=6.01$.

Scheffe multiple comparison of market value of total current liabilities of the sample units is displayed below.

Table 4
Scheffe multiple comparison of total current liabilities
of sample units based on selected variables

Selected Variables		Pair	F	Sig.
Sectors	Large scale sector (A)	A & B	125.78**	0.00
	Home scale sector (B)	A & C	115.87**	0.00
	Small scale sector (C)	A & D	128.62**	0.00
	Cottage sector (D)	B & C	0.05	0.98
		B & D	0.02	1.00
		C & D	0.01	1.00
Number of products produced	1 (A)	A & B	0	0.994
	2 (B)	A & C	6.3**	0.003
	>=3 (C)	B & C	4*	0.021
Category	Vegetable (A)	A & B	0.3	0.741
	Fruit (B)	A & C	5.9**	0.004
	Both (C)	B & C	3.4*	0.039

Source: Primary Data

** Significant at 0.01 level

* Significant at 0.05 level

Large scale sector with home scale sector (125.78), large scale sector with small sector (115.87) and large scale sector with cottage sector (128.62) exhibit significant variation at 0.01 level for the mean value of total current liabilities. No other sector with each other exhibit significant variation. Sample units that produce one product with three or more than three products at 0.01 level (F=6.3) and two products with three or more than three products also exhibit significant variation at 0.05 level (F=4). Sample units that produce vegetable products with both products producing units at 0.01 level (F=5.9) and sample units that produce fruit products with both product producing units at 0.05 level (F=3.4) shows significant variation. The mean value of total current liability exhibits significant difference for large scale sector, units that produce three or more than three products and both product producing units. As these sample units require more raw materials for producing the end product, procure more raw materials.

Working capital turnover ratio

Working capital turnover ratio indicates the velocity of the utilization of net working capital. In other words, this ratio indicates whether or not working capital has been efficiently used in sales. Working capital is the excess of current asset over current liabilities.

$$\text{Working capital turnover ratio} = \frac{\text{Sales}}{\text{Working capital}} \times 100$$

Table 5
Distribution of working capital turnover ratio of sample units
based on selected variables

Selected Variables		Mean	SD	N	F	P
Sectors	Large scale sector	81.5	124.0	9	2.39	0.074
	Home scale sector	63.2	52.3	28		
	Small scale sector	52.1	55.2	23		
	Cottage sector	33.1	26.6	33		
District of the units	Alappuzha	25.3	52.5	15	1.96	0.147
	Ernakulam	58.7	60.0	49		
	Kozhikode	53.1	55.3	29		
Number of products produced	1	51.5	43.9	55	0.54	0.586
	2	41.8	42.2	19		
	>=3	61.4	97.2	19		
Category	Vegetable	49.8	48.7	44	0.05	0.951
	Fruit	52.1	60.4	30		
	Both	54.8	75.1	19		

Source: Primary Data

Average working capital turnover ratio is high in large scale sector (81.5) and low in cottage sector (33.1). Home scale sector have an average working capital of 63.2 and that for small scale sector is 52.1. Average working capital turnover ratio is high in Ernakulam district (58.7) followed by Kozhikode district (53.1) and sample units in Alappuzha district have low working capital turnover ratio (25.3). Sample units producing three or more than three products have high working capital turnover ratio (61.4) followed by single product (51.5) and low in two products producing units. Sample units producing only vegetable products have less working capital turnover ratio (49.8) followed by fruit product producing sample units (52.1) and high in those units producing both fruit and vegetable products (54.8).

Problems relating to the working capital

Problems relating to the working capital of the sample units are ranked as follows.

Table 6

Ranking the problems of working capital of sample units

Problems	Mean	Rank
Shortage	2.5	4
High interest	1.9	5
Delay in getting working capital	3.5	2
Banks are not willing to provide working capital	4.4	1
Heavy procedure	2.8	3

Source: Primary Data

It is clear that banks are not willing to provide working capital which is the prime problem faced by the sample units. The second position goes to delay in getting working capital from the bank. The third rank goes to heavy procedure in getting the working capital from the bank. The fourth position goes to shortage of fund to run the business. The fifth rank goes to high interest of the principal amount ranking the problems of working capital based on sectors are as follows:

Fixed Assets

All fixed assets, intangible assets such as goodwill, patents, trademarks, investments and other assets which are retained permanently in the business are purchased from funds which may be regarded as fixed or permanent capital. Fixed capital may contain land, building, furniture, electric fittings, plant and machinery, tools and other fixed assets.

Table 7 exhibit the average total fixed asset of the sample units is as follows.

Table 7
Distribution of average value of total fixed assets based on selected variables

Selected Variables		Mean	SD	N	F	P
Sectors	Large scale sector	166516398.7	100124410.2	9	70.88**	0.000
	Home scale sector	1754957.8	801268.0	28		
	Small scale sector	12418755.9	15156146.0	23		
	Cottage sector	7645936.2	7763060.2	33		
District of the units	Alappuzha	9646133.7	21302233.4	15	0.46	0.631
	Ernakulam	25700759.2	57369559.8	49		
	Kozhikode	23507050.9	67662588.1	29		
Number of products produced	1	12045622.0	39431509.5	55	3.64*	0.030
	2	23307784.8	63283675.7	19		
	> =3	51598766.4	80751280.0	19		
Category	Vegetable	7584762.0	19514374.9	44	3.44*	0.036
	Fruit	29955304.9	69043694.7	30		
	Both	44912895.3	81620651.8	19		

Source: Primary Data

** Significant at 0.01 level

* Significant at 0.05 level

As per table 7, market value of total fixed asset of large scale sector (166516398.7), home scale sector (1754957.8), small scale sector (12418755.9) and cottage sector (7645936.2) show variation at 0.01 level (F=70.88). Ernakulam district have total market value of fixed asset high (25700759.2) and low in Alappuzha District (9646133.7). The average fixed asset of the sample units that produce single product (12045622) two products (23307784.8) and three or more than three products (51598766.4). Units that produce both products have total cost of fixed asset high and vegetable products producing units have low total cost of fixed asset (7584762). The average

value of total fixed asset of sample units show difference in sector, number of products produced and category of products.

To know whether there exist any significant difference in the total fixed asset based on selected variables. Scheffe multiple comparison is used and the result is shown in table 8.

Table 8
Scheffe multiple comparison of market value of total fixed assets based on selected variables

Selected Variables		Pair	F [^]	Sig.
Sectors	Large scale sector (A)	A & B	62.9**	0.00
	Home scale sector (B)	A & C	52.26**	0.00
	Small scale sector (C)	A & D	60.72**	0.00
	Cottage sector (D)	B & C	0.49	0.69
		B & D	0.18	0.91
		C & D	0.11	0.96
Number of products produced	1 (A)	A & B	0.3	0.745
	2 (B)	A & C	3.6*	0.030
	>= 3 (C)	B & C	1.3	0.291
Category	Vegetable (A)	A & B	1.5	0.237
	Fruit (B)	A & C	3	0.053
	Both (C)	B & C	0.4	0.654

Source: Primary Data

** Significant at 0.01 level

* Significant at 0.05 level

Table 8 shows the Scheffe multiple comparison of total cost of fixed asset. Large scale sector with home scale sector (F=62.9), large scale sector with small scale sector (F=52.26) and large scale sector with cottage sector (F= 60.72) show significant variation at 0.01 level. The average total fixed assets of the large scale sector have the total fixed asset higher than other sector. Sample units that produce single product with three or more than three product producing units have variation at 0.05.level (F=3.6).

Fixed asset turnover ratio

Fixed Asset Turnover ratio is the ratio between fixed assets and turnover. This ratio indicates the extent to which the investment in fixed assets contributes towards sales.

Table 9
Distribution of fixed assets turnover ratio of sample units based on selected variables

Selected Variables		Mean	SD	N	F	P
Sectors	Large scale sector	59.0	26.8	9	0.87	0.462
	Home scale sector	52.0	23.3	28		
	Small scale sector	57.2	28.9	23		
	Cottage sector	62.8	26.7	33		
District of the units	Alappuzha	57.6	27.0	15	1.08	0.345
	Ernakulam	54.5	25.8	49		
	Kozhikode	63.5	26.5	29		
number of products produced	1	55.4	25.6	55	0.66	0.518
	2	59.3	25.5	19		
	>=3	63.2	29.1	19		
Category	Vegetable	59.7	24.7	44	0.81	0.447
	Fruit	52.8	29.1	30		
	Both	61.1	25.0	19		

Source: Primary Data

As per the table 9, it is clear that cottage sector (62.8) have high average fixed asset turnover ratio followed by large scale sector (59.0), small scale sector (57.2) and home scale sector (52.0). Sample units in Kozhikode district exhibit high average fixed asset turnover ratio (63.5) and low in Ernakulam district (54.5). Sample units that are producing single product have low fixed asset turnover ratio (55.4) followed by two products (59.3) and high in three or more than three products producing units. As per the statistics, units producing both fruit and vegetable products have high fixed asset turnover ratio.

Problems relating to the fixed asset are ranked as follows.

Table 10
Ranking the problems of fixed assets of sample units

Problems	Mean	Rank
Lack of security	1.9	2
High rate of interest	1.7	3
Non-cooperation from financial institution	2.4	1

Source: Primary Data

As per the table 10, it is clear that those who acquired high average score is ranked as first and those get low score is ranked as last. Here from the table 10, non-cooperation from financial institution is ranked as first with an average score of 2.4. The second rank goes to lack of security and third rank goes to high rate of interest.

CONCLUSION

Working capital is the life blood and nerve center of a business. It is essential to maintain smooth running of business. Total current asset is found to be high in large scale sector, followed by small scale sector, cottage sector and home scale sector. The average value of total current asset of the sector wise classification of sample units have significant variation at 0.01 level ($F=166.68$). Total current liabilities found to be high in large scale sector (81018444.4) followed by small scale sector (1742521.7), cottage sector (1133411.4) and finally home scale sector (522753.6). The mean value of total current liability exhibits significant variation at 0.01 level. Working capital turnover ratio is found to be efficient in large scale sector, units that producing three or more than three products, both fruit and vegetable products producing units. Fixed asset turnover ratio showed best in cottage sector, units that producing three or more than three products, both fruit and vegetable products producing units. The main problem faced by the working capital and fixed asset is non-cooperation from the financial institutions.

Reference

- i. Shashi K. Gupta and R.K.Sharma. Financial management. New Delhi: Kalyani, 2000.
- ii. O.P.Khanna. Industrial Engineering and Management. New Delhi: Dhanpat rai, 2003
- iii. Erick Bank. Financial Management. New York: Routledge, 2011
- iv. R. C. Arora Industry and Rural Development. New Delhi: Chand, 1978
- v. M. Soundarapandian. Small Scale Industries. New Delhi: Concept, 2002.