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Performance analysis of farmer producer organization (FPOS) in Valsad district of Gujarat

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Abstract

The formation of the collective institution of producers, especially small and marginal farmers, into producer organizations has emerged as one of the most effective pathways to address the many challenges of agriculture. FPOs help the farmers in production, harvesting, processing, procurement, grading, pooling, handling, selling and export of primary produce of the members or import of goods and services for their benefit. Farmer Producer Organizations (FPOs) are a legal entity registered under Company Act 2002. Only farmer producer can become a member of FPO as per amendment done in the act in 2002. The present study was undertaken in Valsad district of Gujarat during 2020-21 to evaluate the performance of FPOs. The study used primary data that were collected from 3 FPOs, regarding their business performance; to assess the impact of FPO on Farmers income. Statistical tools were used for the study included Ratio analysis, Regression Analysis. Current ratios and Acid-test ratios of all the three FPOs were found to be greater than 1.0 indicating that all the three FPOs were in the position to meet their current obligations. The debt-asset ratio indicated that FPOs were financially healthy. The profitability ratios of all the three FPOs were positive. The operating cost of all the three FPOs were less than 1.0 indicating high operating efficiency. Membership of FPO had a significant and positive impact on farmers income and analysis results revealed that FPO members had 9.7 percent higher income than non-members. Landholding size, household size and livestock had significant and positive effect on Farmers income. It was found that the performance of FPOs were satisfactory and it had a significant and positive impact on farmers income. Therefore, it is recommended that FPOs should be promoted in order to raise the farmer's income.

Keywords: FPOs (Farmer producer organizations), farmer's income, forward and backward linkages, small and marginal farmers

Introduction

Agriculture has been and remains an important sector of the Indian economy. The growth in GVA (gross value added) of agriculture and allied sectors has been fluctuating over time. However, during 2020-21, while the GVA for the entire economy contracted by 7.2 percent, growth in GVA for agriculture maintained a positive growth of 3.4 percent (The Economic Times). Agriculture is the primary source of livelihood for 55 percent of India's population and 70 percent of India's rural households. Agriculture and allied sector accounts for approximately 17.8 percent of the country's Gross Value Added (GVA) for the year 2020-21. The small landholders are in distress due to several reasons; such as highly fragmented and scattered landholding, limited accessibility and availability to resources and markets, weak forward and backward linkages, high production cost, etc. Small farmers with weak bargaining powers suffer from monopsonistic exploitation under formal contracts. The Department of Agriculture and Cooperation announced 2014 as the "Year of the Farmer Producer Organizations". The government of India has launched a new Central Sector Scheme in 2020-21 titled "Formation and Promotion of 10,000 Farmer Produce Organizations (FPOs)" with a clear strategy and committed resources to form and promote 10,000 new FPOs in the country with a budgetary provision of Rs 6865 crore.

Methodology

The present study was conducted in the Valsad district of Gujarat. In the Valsad district there are 6 FPOs out of which 50 percent i.e., 3 FPOs were selected purposively as these FPOs have maximum membership to study their financial status and analyse their business performance. From each FPO, twenty-member farmers were selected randomly to study the impact of FPOs on their income and to document the constraints faced by them. Ten non-member farmers were selected conveniently to study the difference of impact of FPOs on their income.

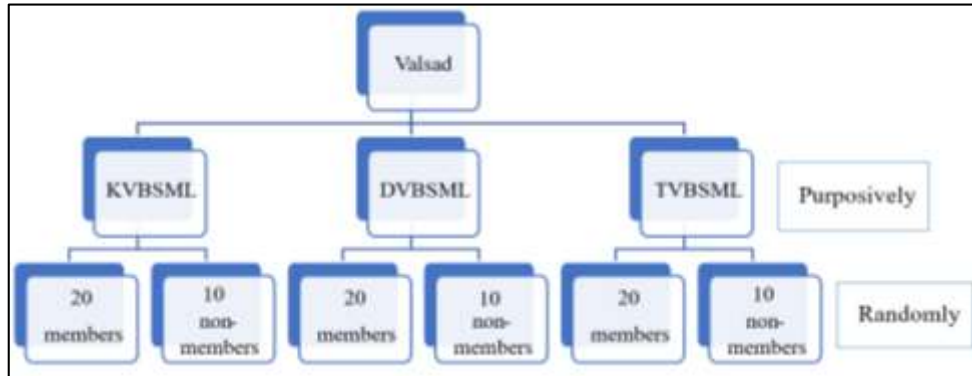
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Total 90 respondents were selected, out of which 60 were members and 30 were non-members. Both, primary as well as secondary data were used for the study purpose. Primary data were collected from FPO member farmers, non-FPO farmers and FPOs CEO through field survey by the interview and

recall memory method with the help of a pre-tested and well-structured schedule for the year 2020-21. It includes family details like age, education, landholding of farmers, size of householding, farm income and constraints faced by the members.



Financial ratio analysis of Farmer Producer Organizations

This objective involves a comprehensive study of the business performance of selected FPOs. Ratio analysis has been used to know the business performance of the selected FPOs in the Valsad district, the financial ratio analysis is an effective tool providing the summary of the performance of a business organization has been relied upon.

The financial ratios employed in this study were classified according to their primary functions. The ratios used were

- Liquidity ratios,
- Solvency ratio,
- Profitability ratios and
- Efficiency ratios.

The different financial ratios used for the analysis are discussed below.

Liquidity Ratios

The ability of an FPO to pay its debts can be measured by using liquidity ratios. Short-term liquidity is related to current assets and current liabilities. If an organization has enough net working capital which means it has excess current assets, so it will have sufficient liquidity.

Current Ratio

This ratio indicates the degree of short-term liquidity of the FPO. It shows whether current assets are adequate to satisfy current liabilities.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current Liabilities}}$$

The current assets included in this study are cash in hand and at the bank and bills receivables. The current liabilities included are borrowings and bills payables. It is generally accepted that a good current ratio should be between 1.5 and 2. Generally higher the value of this ratio, the greater will be the margin and financial solvency of the company.

Acid- Test ratio

This ratio is also called as the quick ratio and it represents the ratio between quick assets and current liabilities. It is computed as follows:

$$\text{Acid-test ratio} = \frac{\text{Quick assets}}{\text{Current Liabilities}}$$

Where,

$$\text{Quick assets} = \text{Current assets} - \text{inventory}$$

The quick assets include cash in hand, cash at the bank and short-term deposits.

The current liabilities include bills payable, other provisions and interest paid.

Liquid assets to total assets ratio

The degree of liquidity performance adopted by the FPO is depicted by this ratio. It was computed as follows

$$\text{Liquid assets to total assets ratio} = \frac{\text{Liquid assets}}{\text{Total assets}}$$

The liquid assets included are cash in hand and cash at the bank account.

Solvency ratio

This ratio indicates FPOs own involvement in its total resources and provide the basis for measuring its leverage ratio.

Debt-Asset ratio

This ratio is also called the ‘leverage ratio’ which compares the company’s stake in the business with outside term liabilities. The lower value of the ratio indicates that the leverage effect will be restricted to the minor role of debt and major capital being assets.

$$\text{Debt-asset ratio} = \frac{\text{Total debt}}{\text{Total assets}}$$

This ratio shows how much of the company’s assets are financed by debt and assets. This ratio provides important information about the prospects of financing.

Profitability ratio

These ratios are used to compare the return to the investment. Following were the important ratios computed.

Net profit to Total Assets Ratio

$$\text{Net profit to total assets} = \frac{\text{Net profit}}{\text{Total assets}}$$

An increasing trend over the years indicates the overall efficiency of the Organization.

Net profit to net worth ratio

The ratio of net profit to net worth shows whether profitability is being maintained or not.

$$\text{Net profit to net worth} = \frac{\text{Net profit}}{\text{Net worth}}$$

Net profit to fixed assets ratio

The ratio indicates whether the fixed assets are being used for profitability. A low value in the ratio shows that either the assets are being kept idle or the business conditions are bad.

$$\text{Net profit to fixed assets ratio} = \frac{\text{Net profit}}{\text{Fixed assets}}$$

Efficiency ratio

The following ratios were used to access the efficiency of FPOs.

Gross ratio

This ratio helps to ascertain how efficiently the gross income of the Company was earned. It is a popular tool to evaluate the operational performance of the business.

The ratio was computed as follows.

$$\text{Gross ratio} = \frac{\text{Total expenses}}{\text{Gross income}}$$

Operating ratio

The operating ratio can be used to determine the efficiency of a company's management by comparing operating expenses to gross income. It is calculated by dividing the operating expenses with gross income. The smaller the ratio the greater will be the organization's ability to generate profit

$$\text{Operating ratio} = \frac{\text{Operating expenses}}{\text{Gross income}}$$

Assessment of the impact of FPO on farmer's income

In order to assess the impact of FPO on farmers' income Log linear regression model was used in this study.

Log linear regression model: $\ln Y = F \{ \text{age, farm size, house hold size, livestock, FPO (member/Non-member), education (literate/illiterate)} \}$

The model is specified as.

$$\ln Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + U_i$$

Where,

Y-farmer's income β_0 = Intercept $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ = Regression coefficients

X_1 -Age, X_2 -Farm size, X_3 -Household size, X_4 - Livestock, X_5 - Membership of FPO, X_6 - Education, U_i = Error term

Table 1: Description of variables used in the Regression model

Variable modelled	Variable measurement	Expected sign
Dependent variable (Farmers Income)	-	
Independent variable		
Age	Year	+/-
Farm size	Size of land in ha	+
House hold size	Number of members in the family	+
Livestock	Number of livestock rearing	+
Membership of FPO	Member=1, Non-member=0	+
Education	Illiterate=0, Literate=1	+

Result and Discussion

Financial ratio analysis of FPOs

The financial ratios of 3 sampled FPOs were calculated. The financial ratio analysis of Farmer Producer Organizations was attempted through financial ratios for one year, 2020-21. The selected financial ratios fall under four groups viz., tests of liquidity, tests of solvency, tests of profitability and efficiency.

Tests of liquidity

The three liquidity ratios were calculated and the results are presented in Table 2.

Current ratio

This ratio measures the degree of short-term liquidity of the company. The current ratio of all FPOs were found to be greater than 1.5 except Tutarkhed Vibhag Bagayat Sahakari Mandali Limited (1.36) indicating that they had sufficient

current assets to meet the current liabilities. Among these 3 FPOs, DVBSML had highest current ratio (2.32) followed by KVBSML had current ratio 1.57. TVBSML had lowest current ratio (1.36). It can be concluded that all the three FPOs were in the position to meet their current obligations.

Acid- Test ratio

The Table revealed that Dixal Vibhag Bagayat Sahakari Mandali Limited had the highest acid test ratio (1.15) followed by Karjan Vibhag Bagayat Sahakari Mandali Limited had acid test ratio 1.15. Tutarkhed Vibhag Bagayat Sahakari Mandali Limited had the lowest acid test ratio (1.11).

The acid test ratio or quick ratio provides a better measure of liquidity than the current ratio as inventory is deducted from current assets for the calculation of this ratio.

A standard ratio of 1:1 is desirable. It may be concluded that the above organizations had maintained adequate cash

balances to meet the day-to-day requirements instead of depending on its inventory for immediate commitments.

Liquid assets to total assets ratio

It is evident from Table 2 that the liquid assets to total assets ratio was found to be 0.37 for DVBSML followed by 0.28 and 0.13 for KVBSML and TVBSML, respectively.

The findings revealed that DVBSML had the highest amount of working capital available followed by KVBSML. TVBSML had the least amount available. A higher proportion of liquid assets in the total assets is a healthy sign as an organization should have more working capital to meet the increased volume of production.

Table 2: Liquidity status of sample FPOs in Valsad district

Sl. No.	FPOs	Ratios		
		Current ratio	Acid test ratio	Liquid assets to total asset ratio
1.	Karjan Vibhag Bagayat Sahakari Mandali Limited	1.57	1.15	0.28
2.	Dixal Vibhag Bagayat Sahakari Mandali Limited	2.32	1.58	0.37
3.	Tutarkhed Vibhag Bagayat Sahakari Mandali Limited	1.36	1.11	0.13

Test of Solvency

This ratio provides information on the ability of the organization to cover its long-term obligations.

Debt-Asset ratio

In general Debt-Asset ratio is a measure of FPO's financial

risk and it measures how much of an FPO's debts can be paid off by selling its assets in case of liquidation. Table 3. revealed that the Debt-asset ratio of KVBSML was the lowest (0.21) indicating that it can easily pay its debts as compared to DVBSML and TVBSML. DVBSML had debt asset ratio of 0.33. TVBSML had the highest debt-asset ratio (0.65).

Table 3: Solvency status of sample FPOs in Valsad district

Sl. No.	FPOs	Debt-asset ratio
1.	Karjan Vibhag Bagayat Sahakari Mandali Limited	0.21
2.	Dixal Vibhag Bagayat Sahakari Mandali Limited	0.33
3.	Tutarkhed Vibhag Bagayat Sahakari Mandali Limited	0.65

Tests of profitability

The profitability ratios are used to assess the financial status and overall efficiency of the institution. The profitability ratios are presented in Table 4.

Net profit to total assets

The Table revealed that DVBSML had the highest net profit to total assets ratio (0.26) followed by KVBSML (0.17). TVBSML had the lowest net profit to total assets (0.07).

Net profit to net worth

The Table further revealed that the net profit to net worth

ratio was 0.2 for both TVBSML and KVBSML. Dixal Vibhag Bagayat Sahakari Mandali Limited had the highest net profit to net worth ratio (0.39).

Net profit to fixed assets

It is observed from the Table that the net profit to fixed assets ratio was highest for DVBSML (0.81) followed by Karjan Vibhag Bagayat Sahakari Mandali Limited (0.36). TVBSML had lowest net profit to fixed assets ratio (0.13). This ratio specifically measures a company's ability to generate net sales from fixed-asset investments. A low value in the ratio shows that either the assets are being kept idle or the business conditions are bad.

Table 4: Profitability status of sample FPOs in Valsad district

Sl. No.	FPOs	Ratios		
		Net profit to total assets	Net profit to net worth	Net profit to fixed assets
1.	Karjan Vibhag Bagayat Sahakari Mandali Limited	0.17	0.21	0.36
2.	Dixal Vibhag Bagayat Sahakari Mandali Limited	0.26	0.39	0.81
3.	Tutarkhed Vibhag Bagayat Sahakari Mandali Limited	0.07	0.20	0.13

Tests of efficiency

The gross ratio and operating ratio were calculated to assess the efficiency of the institution and they are presented in Table 5.

Gross ratio

The Table revealed that DVBSML had highest gross ratio of 0.71 followed by KVBSML (0.68). TVBSML had the lowest gross ratio of 0.63.

Operating ratio

It is apparent from Table that DVBSML had the highest operating ratio of 0.63 followed by TVBSML (0.52). KVBSML had the lowest operating ratio of (0.48). The operating ratio in all the FPOs was less than one. The ratio within one indicates that the organization spent less than what it earned in carrying out its operation. This speaks about the high operating efficiency of the organization.

Table 5: Efficiency status of sample FPOs in Valsad district

Sl. No.	FPOs	Ratios	
		Gross ratio	Operating ratio
1.	Karjan Vibhag Bagayat Sahakari Mandali Limited	0.68	0.48
2.	Dixal Vibhag Bagayat Sahakari Mandali Limited	0.71	0.63
3.	Tutarkhed Vibhag Bagayat Sahakari Mandali Limited	0.63	0.52

Table 7: Regression estimates of impact of FPOs on farmer's income

Variables	Coefficient	Standard error	P value
Intercept	12.1302	0.07	1.6E-105*
Age (years)	0.0009	0.001	0.398
Landholding size (No.)	0.05	0.011	1.86E-05***
Household size (No.)	0.011	0.006	0.076*
Livestock (No.)	0.077	0.009	3.14E-12***
Farmer (member=1, non-member =0)	0.097	0.024	0.0001***
Education (illiterate=0, literate=1)	0.021	0.018	0.258
R Square	0.801		
Adjusted R Square	0.787		

Note * statistically significant 10% level,

*** statistically significant 1% level

According to the results obtained from regression analysis which are mentioned in Table 7, independent variables like age, landholding size, household size, livestock, membership of FPO and level of education are positively related to farmer's income. The results are in Table 7 indicated that membership of FPO, in general, has a positive effect on farmer income. Regression findings revealed that membership of FPO had a significant and positive effect on farmer's income. The analysis also revealed that landholding size, household size and livestock had a significant and positive effect on farmer's income. Among the explanatory variables, landholding size, livestock and membership were significant at 1% level while household size was significant at 10 percent level. Age and level of education were found to be nonsignificant. Overall membership of FPO had a positive impact on Farmer's income and regression results revealed that members had 9.7% higher income than non-member's income.

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