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## ORIGINAL ARTICLE

# Effectiveness of enabled services provided by Farmer Producer Organizations in Tamil Nadu, India - An analysis

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**ABSTRACT**
*The Government of India is moving towards the goal of doubling farmers' income. But, there are various obstacles in the way.The factors such as poor supply chain management, lack of modernization and declining average size of farm holdings reduce the speed of this progress. Realizing these issues of small and marginal farmers, the Government of India is actively promoting the Farmers Producer Organisations (FPO). FPOs enable integration of small and marginal farmers to improve their economic status and its market linkages increase their incomes. To identify the effectiveness of services provided by such FPOs may help policymakers to improve them. Based on this, the study was conducted in three well-functioning FPOs in Tamil Nadu, India. From the three FPOs, 100 beneficiaries will be selected from each, thus constituting 300 as the final size of the sample. Eleven key services provided to beneficiaries by the FPOs were taken up. The results show that, the effectiveness of enabling services was perceived to be very effective as reflected in the overall effectiveness score of 80.02 percent. Even though considerable efforts have been made to achieve the effectiveness of the enabled services, there still remains a lacuna that needs to be filled. Hence the beneficiaries felt much-needed attention in lagging areas. Farmer's producer organizations do require support and guidance to fulfil that lagging part in the areas of services like export (48.83 percent) and participation in commodity exchange (47.80 percent) because both the services play a major role for the beneficiaries to get better market value for their products and helps to avoid the losses of their production. The results of this study confirm that the overall services of the FPOs are very effective.*
***Keywords:****Farmer producer organisation, Enable services, Effectiveness*

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## INTRODUCTION

Agriculture is the backbone of Indian economy. It employs around fifty-eight percent of the Indian workforces, contributes to the standard increase of the economy, and reduces poverty with the aid of imparting employment and meal protection to the majority of the populace. Moreover, the role of the agricultural sector in alleviating poverty and in ensuring the sustainable development of the economy is well established. In India, the fact that small and marginal farmers occupy about eighty-five percent of the total cultivated area indicates their importance [1]. Inadequate farming and extension offerings and low degree of science adoption, lack of capital and negative commercial enterprise skills, and low profits due to terrible infrastructure and low market effectivity are boundaries for small and marginal farm holders to succeed. To save small and marginal farmers from the ill effects of globalization, there is a need to integrate them into the modern competitive markets [2]. In this context, a sustainable answer lies in the collectivization of agricultural produce, the Department of Agriculture and Cooperation, Ministry of Agriculture and Farmers Welfare, Government of India has identified Farmer Producer Organisations (FPOs) as the most appropriate institutional form and mechanism to mobilize farmers and build their capacity to collectively leverage their production and marketing strengths.

Small Farmers Agribusiness Consortium (SFAC) is the nodal agency coordinate the between the states and single window for the technical advice and investment needs. Producer Organization Development Fund

(PODF) has been created by NABARD to specially promote the FPOs[3]. According to Ministry of Agriculture, Department of Agriculture and Cooperation, the many challenges faced by individual small and marginal farmers, especially in the marketing of the products are expected to be addressed by the formation of FPOs.

FPOs are being established so that they can help small and marginal farmers in earning more returns through collective input purchase, collective marketing, processing, increasing productivity through procuring better inputs, augmenting knowledge of farmers in better management practices, and ensuring quality [4]. The Government affirmed that FPOs are the most appropriate institutional form around which farmers can mobilize and build their capacity to collectively leverage their production and marketing strength [5].

The main aim of FPOs was to help small and marginal farmers to achieve economies of scale by strengthening the support and services in the emerging value chains [6]. The Government of India has formulated and implemented eleven important services for the effective functioning of these FPOs. Quantifying these services may help policymakers to alter their strengths and weaknesses. Accordingly, this study was carried out with the objectives of measuring the effectiveness of the enable services of farmer producer organizations among the beneficiaries in detail and the results analyzed in this paper.

## MATERIAL AND METHODS

### Selection of study area

The research study was undertaken in three FPOs that were well-functioning as per Government Certification in the State of Tamil Nadu, India. These are located in Coimbatore, Trichy and Erode districts of the State.

### Selection of the respondents

A complete list of FPO beneficiaries was collected in consultation with the staff of the selected three FPOs. The selection of beneficiaries was done proportionately. From the three selected FPOs, 100 beneficiaries will be selected from each FPO, thus constituting 300 as the final size of the sample**.**

### Measurement of variables

To measure the effectiveness of enabled services of FPOs, the beneficiaries were interviewed through a set of major core services which was derived from the Government of India Guidelines on FPOs core services, in consultation with the Chief Executive Officers of FPOs, Experts and Reports. The structural questions comprised various services and were placed on a three point continuum ranging from Strongly Agree, Agree, and Disagree with scores of 2, 1, and 0 respectively.

The beneficiaries were requested to provide their preferences regarding the various aspects of the enabled services. The procedure was followed by Senthilkumar *et al*. [7] with slight modifications and was considered as the base for estimating the effectiveness of enabled services. For identifying the individual effectiveness of the enabled services, the following formula was applied [8].

$$\text{EES} = \frac{D_1}{P_1} + \frac{D_2}{P_2} + \frac{D_3}{P_3} + \cdots + \frac{D_n}{P_n} \times 1$$

Where, EES= Effectiveness of Enabled Services, D1, D2, D3...Dnrefers to the total score obtained by all the beneficiaries on a particular dimension of items, P1, P2, P3...Pn refers to the potential scores obtainable on each dimension included in the study. For calculating overall effectiveness, the following formula was used:

$$\text{OE} = \frac{EESI_1 + EESI_2 + E}{Z}$$

Where $EESI_1 + EE$ refers to the individual item effectiveness for all the items 1 to Z included in the services.

The Extent Potential Ratio (EPR) is calculated by dividing the actual score obtained by FPO beneficiaries for each service by the maximum possible score (600).

### Data Collection

Data collection from the selected respondents was made by using a pre-tested well-structured interview schedule using the personal interview method. The selected respondents were personally approached and interviewed at their place of residence/field and their responses were carefully recorded in the schedule.

### Statistical analysis

The collected data were coded, tabulated, and analysed by the objectives of the study using appropriate statistical tests. The statistical tools were applied for analysis of the collected information to draw the meaningful and logical conclusions.

 

## RESULTS AND DISCUSSION

### A. Effectiveness of enabled services provided by farmer producer organizations

The result presented in the Table 1 indicates that the respondents were requested to mention their level of effectiveness towards the enabled services of FPOs. The scores were obtained by using a three-point continuum scale on major eleven dimensions recommended by NABARD namely Procurements of inputs, Disseminating market information, Disseminating of technology and innovation, Facilitating finance for inputs, Aggregation and storage of produce, Primary processing like drying, cleaning and grading, Brand building, packaging, labelling and standardization, Quality control, Marketing to institutional buyers, Participation in commodity exchanges and Export. Totally sixty-one items were analysed under these eleven dimensions.

**Table 1.** The extent potential ratio (EPR) and effectiveness of enabled services (EES) score for each enabled services by FPO Beneficiaries

| S.No | Enabled Services | SA | A | D | TS | EPR | EES |
|---|---|---|---|---|---|---|---|
| 1 | **Procurements of inputs** | | | | | | |
| i | Facilitating and ensuring supply of quality seeds and propagation materials | 278 | 11 | 11 | 567 | 0.94 | 94.00 |
| ii | Supply of mechanized farm implements | 270 | 19 | 11 | 559 | 0.93 | 93.00 |
| iii | Facilitating and ensuring supply of fertilizer with recommended dose | 289 | 11 | 00 | 589 | 0.98 | 98.00 |
| iv | Facilitating to apply the recommended pesticides and insecticides | 289 | 11 | 00 | 589 | 0.98 | 98.00 |
| v | Facilitating timely utilization of skilled labour in farm operations | 258 | 18 | 24 | 534 | 0.89 | 89.00 |
| vi | Provision of necessary equipment for micro irrigation | 230 | 65 | 05 | 525 | 0.87 | 87.00 |
| | **Mean score** | **269.00** | **22.50** | **8.50** | **560.50** | **0.93** | **93.16** |
| 2 | **Disseminating market information** | | | | | | |
| i | Disseminating information about market prices | 290 | 10 | 00 | 590 | 0.98 | 98.00 |
| ii | Disseminating information about registration process | 280 | 19 | 01 | 579 | 0.96 | 96.00 |
| iii | Disseminating information about marketing fluctuations | 282 | 18 | 00 | 582 | 0.97 | 97.00 |
| iv | Providing information on opportunities and eliminate risks in marketing | 290 | 10 | 00 | 590 | 0.98 | 98.00 |
| v | Providing Information about advertising and other promotional materials for to improve marketing efficiency | 282 | 18 | 00 | 582 | 0.97 | 97.00 |
| | **Mean score** | **284.80** | **15.00** | **0.20** | **584.60** | **0.97** | **97.20** |
| 3 | **Disseminating of technology and innovation** | | | | | | |
| i | Awareness on new technologies | 290 | 10 | 00 | 590 | 0.98 | 98.00 |
| ii | Spreading of innovation to the farmers | 282 | 15 | 03 | 579 | 0.96 | 96.00 |
| iii | Conduct research on new ideas | 272 | 18 | 10 | 562 | 0.93 | 93.00 |
| iv | Conduct trails and demonstrations | 272 | 18 | 10 | 562 | 0.93 | 93.00 |
| v | Organise exposure visits to research fields | 282 | 18 | 00 | 582 | 0.97 | 97.00 |
| vi | Creating awareness about the importance of e-services and encourage its use | 281 | 17 | 02 | 579 | 0.96 | 96.00 |
| | **Mean score** | **279.83** | **16.00** | **4.16** | **575.66** | **0.95** | **95.50** |
| 4 | **Facilitating finance for inputs** | | | | | | |
| i | Arranging of loans and other credit facilities for crop production aspects | 258 | 18 | 24 | 534 | 0.89 | 89.00 |
| ii | Arranging loans for farm mechanization | 218 | 70 | 12 | 506 | 0.84 | 84.00 |
| iii | Arranging loans for storage structures | 208 | 56 | 36 | 472 | 0.78 | 78.00 |
| iv | Arranging product marketing loans | 209 | 55 | 36 | 473 | 0.78 | 78.00 |
| v | Facilitating leasing services | 205 | 19 | 76 | 429 | 0.71 | 71.00 |
| vi | Providing weather based insurance service | 207 | 22 | 71 | 436 | 0.72 | 72.00 |
| | **Mean score** | **217.50** | **40.00** | **42.50** | **475.00** | **0.78** | **78.66** |
| 5 | **Aggregation and storage of produce** | | | | | | |
| i | Promote collective sales and marketing | 273 | 18 | 09 | 564 | 0.94 | 94.00 |

 

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ii | Providing bulk storage facilities | 270 | 19 | 11 | 559 | 0.93 | 93.00 |
| iii | Providing cold storage management | 80 | 46 | 174 | 206 | 0.34 | 34.00 |
| iv | Helps in maintenance of storage godowns | 259 | 23 | 18 | 541 | 0.90 | 90.00 |
| v | Providing transportation support for aggregation | 282 | 18 | 00 | 582 | 0.97 | 97.00 |
| | **Mean score** | **232.80** | **24.80** | **42.40** | **490.40** | **0.81** | **81.60** |
| 6 | **Primary processing like drying, cleaning and grading** | | | | | | |
| i | Providing facilities for drying and cleaning | 257 | 40 | 03 | 554 | 0.92 | 92.00 |
| ii | Inspection and assessment of agricultural produce | 259 | 17 | 24 | 535 | 0.89 | 89.00 |
| iii | Sorting and grading based on quality and freshness | 240 | 44 | 16 | 524 | 0.87 | 87.00 |
| | **Mean score** | **252.00** | **33.66** | **14.33** | **537.66** | **0.89** | **89.33** |
| 7 | **Brand building, Packaging, Labelling and Standardization** | | | | | | |
| i | Helps to build their own brand | 259 | 17 | 24 | 535 | 0.89 | 89.00 |
| ii | Helps to develop their name, logo and tag line | 234 | 38 | 28 | 506 | 0.84 | 84.00 |
| iii | Helps to creating a unique and lasting image in their brand | 240 | 37 | 23 | 517 | 0.86 | 86.00 |
| iv | Helps to build brand awareness by developing new strategies | 272 | 23 | 05 | 567 | 0.94 | 94.00 |
| v | Helps to create eye-catching and inviting packages | 260 | 30 | 10 | 550 | 0.91 | 91.00 |
| vi | Helps to pack the products easily without any loss | 251 | 23 | 26 | 525 | 0.87 | 87.00 |
| vii | Assist in ensuring proper product standards | 230 | 50 | 20 | 510 | 0.85 | 85.00 |
| | **Mean score** | **249.42** | **31.14** | **19.42** | **530.00** | **0.88** | **88.00** |
| 8 | **Quality control** | | | | | | |
| i | Providing information on maintaining product quality | 213 | 47 | 40 | 473 | 0.78 | 78.00 |
| ii | Helps to minimize the physical, chemical and biological hazards | 209 | 47 | 44 | 465 | 0.77 | 77.00 |
| iii | Arranging production monitoring and inspections | 175 | 69 | 56 | 419 | 0.69 | 69.00 |
| iv | Helps in product testing | 174 | 68 | 58 | 416 | 0.69 | 69.00 |
| v | Helps to enhance the product quality and reduce marketing risks | 207 | 68 | 25 | 482 | 0.80 | 80.00 |
| vi | Helps to maintain customer loyalty by improving quality features | 184 | 79 | 37 | 447 | 0.74 | 74.00 |
| | **Mean score** | **193.66** | **63.00** | **43.33** | **450.33** | **0.74** | **74.50** |
| 9 | **Marketing to institutional buyers** | | | | | | |
| i | Facilitating marketing with government and private institutions | 211 | 49 | 40 | 471 | 0.78 | 78.00 |
| ii | Helps to find the best distribution channels | 240 | 44 | 16 | 524 | 0.87 | 87.00 |
| iii | Helps in product and service management sectors | 234 | 40 | 26 | 508 | 0.84 | 84.00 |
| iv | Helps in fixing the correct prices | 260 | 30 | 10 | 550 | 0.91 | 91.00 |
| v | Helps in promoting the distribution channels | 259 | 22 | 19 | 540 | 0.90 | 90.00 |
| vi | Helps to improve the institutional strategies in marketing | 234 | 40 | 26 | 508 | 0.84 | 84.00 |
| | **Mean score** | **239.66** | **37.50** | **22.83** | **516.83** | **0.85** | **85.66** |
| 10 | **Participation in commodity exchanges** | | | | | | |
| i | Motivate and provide guidance for participation in commodity exchanges | 125 | 59 | 116 | 309 | 0.51 | 51.00 |
| ii | Helps to determine the rules and procedures for community contracts | 124 | 48 | 128 | 296 | 0.49 | 49.00 |
| iii | Providing services related to goods and contract trade | 99 | 74 | 127 | 272 | 0.45 | 45.00 |
| iv | Providing a market place in suitable and convenient location | 105 | 77 | 118 | 287 | 0.47 | 47.00 |
| v | Creating awareness in reducing the risk during the exchange | 102 | 79 | 119 | 283 | 0.47 | 47.00 |

 

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Mean score** | **111.00** | **67.40** | **121.60** | **289.40** | **0.47** | **47.80** |
| 11 | **Export** | | | | | | |
| i | Helps to export as part of the overall business | 124 | 58 | 118 | 306 | 0.51 | 51.00 |
| ii | Helps to assess each market and its value | 120 | 50 | 130 | 290 | 0.48 | 48.00 |
| iii | Helps to assess the requirements in export marketing | 126 | 57 | 117 | 309 | 0.51 | 51.00 |
| iv | Helps to manage financial, payment and risk in export | 108 | 62 | 130 | 278 | 0.46 | 46.00 |
| v | Helps to facilitate accounting services | 120 | 50 | 130 | 290 | 0.48 | 48.00 |
| vi | Helps to maintain the correct documents of files and bills | 122 | 50 | 128 | 294 | 0.49 | 49.00 |
| | **Mean score** | **120.00** | **54.50** | **125.50** | **294.50** | **0.48** | **48.83** |

**SA-** Strongly agree **A-** Agree **D-** Disagree **TS-** Total Score **EPR-** Extent Potential Ratio **EES-** Effectiveness of Enabled Services

**Procurement of inputs**

It could be observed from the Table 1 the total effectiveness score for the dimension of procurement of inputs was 93.16 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 87.00 to 98.00 percent.

The services under the 'procurement of inputs' such as 'facilitating and ensuring the supply of fertilizer with recommended dose (98.00 percent)' and 'facilitating to apply of the recommended pesticides and insecticides (98.00percent)' were effectively contribute to fertilizer application and crop protection measures respectively for beneficiaries. Following them, the Table shows that 'facilitating and ensuring the supply of quality seeds and propagation materials (94.00 percent)', 'supply of mechanized farm implements (93.00 percent)', 'facilitating timely utilization of skilled labour in farm operations (89.00 percent)' and 'provision of necessary equipment for micro-irrigation (87.00 percent)'were more favourable for beneficiaries. It could be inferred that procurement of input services was found to be effective and useful to the beneficiaries of farmer producer organizations. Procurement of improved seeds, fertilizers and mechanization creates a favourable environment for the beneficiaries to achieve production and productivity. This finding is in line with findings of Nikam *et al*[9] and Ereneus *et al*[3].

**Disseminating market information**

It could be perceived from the Table 1 the total effectiveness score for disseminating market information was 97.20 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 96.00 to 98.00 percent.

The services comes under 'disseminating market information' such as 'disseminating information about market prices (98.00 percent)' and 'providing information on opportunities and eliminating risks in marketing (98.00 percent)' were effectively contribute for the beneficiaries to get the latest information about market prices and understand the fluctuations of product prices in the marketing sector. Besides these, the Table shows that 'providing information about advertising and other promotional materials to improve marketing efficiency (97.00 percent)', 'disseminating information about marketing fluctuations (97.00 percent)' and 'disseminating information about the registration process (96.00 percent)' were more beneficial for FPO members. It could be concluded that disseminating market information was found to be very effective and enables the beneficiaries of Farmer Producer Organization to make correct decisions. It helps them to understand the consumer demand and market information related to new crops. This findings is in agreement with earlier finding of Salokhe[10],Krishna *et al.,* [11] and Venkattakumar *et al.* [12].

**Disseminating technology and innovation**

The results in Table 1 exhibited that, the total effectiveness score for disseminating technology and innovation was 95.50 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 93.00 to 98.00 percent.

The services under the 'disseminating technology and innovation' such as 'awareness of new technologies (98.00 percent)' and 'organise exposure visits to research fields (97.00 percent)' were supportive for the beneficiaries to utilize the technology for to improve crop yields and keep themselves up-to-date in new methods of farming. Following them, 'spreading of innovation to the farmers (96.00 percent)', 'creating awareness about the importance of e-services and encouraging their use (96.00 percent)', 'conduct research on new ideas (93.00 percent)' and 'conduct trails and demonstrations (93.00 percent)' were more favourable for the beneficiaries to get better and spontaneous information about agricultural practices. It could be conjectured that dissemination of technology and innovation was found to be effective and it

provides strong potential for driving economic growth, improving annual income and livelihoods among beneficiaries. This findings gave support from earlier findings of Trebbin [13] and Chinmayee [14].

**Facilitating finance for inputs**

From the Table 1, it was clearly observed that the total effectiveness score for facilitating finance for inputs was 78.66 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 71.00 to 89.00 percent.

The services belongs the 'facilitating finance for inputs' such as 'arranging of loans and other credit facilities for crop production aspects (89.00 percent)' and 'arranging loans for farm mechanization (84.00 percent)' were effectively utilized by the beneficiaries to empower the wealth, to improve the production and to increase investment choices. Apart them, 'arranging loans for storage structures (78.00 percent)', 'arranging product marketing loans (78.00 percent)', 'providing weather-based insurance service (72.00 percent)' and 'facilitating leasing services (71.00 percent)' were supports beneficiaries to manage risks in financial aspects. It could be accurate that facilitating finance for inputs was found to be less favourable compared to other dimensions of enabled services. Hence the beneficiaries felt much need for support in these lacking areas of financial support. This finding derives support from the findings of Latynskiy [15] and Sultana [16].

**Aggregation and storage of produce**

The data figured in Table 1, revealed that the total effectiveness score for the aggregation and storage of produce was 81.60 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 34.00 to 97.00 percent.

The services included in the 'aggregation and storage of produce' such as 'providing transportation support for aggregation (97.00 percent)', 'promote collective sales and marketing (94.00 percent)', 'providing bulk storage facilities (93.00 percent)', and 'helps in maintenance of storage godowns (90.00 percent)' were efficiently used for beneficiaries of farmer producer organization in delivering farm resources and harvested crops as quick as possible. Overall these services were productive and favourable for beneficiaries to aggregate and store their own produce. Among these services, only 'providing cold storage management (34.00 percent)' was found to be lagging behind. This may be due to the high cost of building and maintaining this system. This finding is in accordance with the findings of Abokyi [17]and Gurpreet [18].

**Primary processing like drying, cleaning, and grading**

It is interesting to note from the Table 1 that the total effectiveness score for the primary processing like drying, cleaning, and grading was 89.33 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 87.00 to 92.00 percent.

The services under the 'primary processing like drying, cleaning, and grading' such as 'providing facilities for drying and cleaning (92.00 percent)' was effectively useful for beneficiaries to save their time and labour. Next to this, 'inspection and assessment of agricultural produce (89 .00 percent)' and 'sorting and grading based on quality and freshness (87.00 percent)' were more useful and create awareness of the market segmentation of their crops as per the grades and the worth of this activity among the beneficiaries of Farmer producer organizations. The findings is in association with findings of Babu [19] and Manaswi[20].

**Brand building, packaging, labelling, and standardization**

The Table 1 indicates that the total effectiveness score for brand building, packaging, labelling, and standardization was 88.00 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 84.00 to 94.00 percent.

The services comes in the 'brand building, packaging, labelling, and standardization' such as 'helps to build brand awareness by developing new strategies (94.00 per cent)' and 'helps to create eye-catching and inviting packages (91.00 percent)' were effectively helpful for beneficiaries to get better awareness about establishing their own brand. Apart them, the services 'help to build their own brand (89.00 percent)', 'helps to pack the products easily without any loss (87.00 percent)', 'helps to creating a unique and lasting image in their brand (86.00 percent)', 'assisting in ensuring proper product standards (85.00 percent)' and 'helps to develop their name, logo, and tagline (84.00 percent)' were favourable for the beneficiaries. It could be inferred that the brand building, packaging, labelling, and standardization were found to be effective and this will be helpful for the beneficiaries to enhance the product quality. This finding derives support from findings of Shivani *et al.,* [4] and Nisha [21].

**Quality control**

It is evident from the Table 1 that the total effectiveness score for quality control was 74.50 percent, where the scores for individual aspects indicating its relative effectiveness ranged from 69.00 to 80.00 percent.

The services belongs the 'quality control' such as 'helps to enhance the product quality and reduce marketing risks (80.00 percent)' was effectively contribute to beneficiaries for to improve the quality of their product for to get better market prices. Besides these, 'providing information on maintaining product quality (78.00 percent)', 'helps to minimize the physical, chemical, and biological hazards (77.00 percent)', 'helps to maintain customer loyalty by improving quality features (74.00 percent)', 'arranging production monitoring and inspections (69.00 percent)' and 'help in product testing (69.00 percent)' were found to be adequate favourable. Hence the beneficiaries needs to more attention to improve these services in quality control, it was one of the most important aspects of supply chain management. This findings derives support from Ereneus *et al.,*[3].

**Marketing to institutional buyers**

From the Table 1, it was clearly observed that the total effectiveness score for marketing of institutional buyers was 85.66 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 78.00 to 91.00 percent.

The services in the 'marketing of institutional buyers' such as 'helps in fixing the correct prices (91.00 percent)', 'helps in promoting the distribution channels (90.00 percent)'and 'helps to find the best distribution channels (87.00 percent)' were effectively supportive for beneficiaries to facilitate the various available opportunities of marketing channels for their farm produce. This findings are in line with Ereneus *et al* (2019). Following them, the Table show that 'helps in product and service management sectors (84.00 percent)', 'helps to improve the institutional strategies in marketing (84.00 percent)'and 'facilitating marketing with government and private institutions (78.00 percent)' were favourable for beneficiaries. It could be inferred that marketing to institutional buyers was found to be effective and useful to the beneficiaries of farmer producer organizations. Institutional model of exchange in emerging markets can help organizations devise and implement successful business models. This findings are in association with findings of Chinmayee [14]andRajesh Kumar [22].

**Participation in commodity exchanges**

It could be observed from the Table 1 the total effectiveness score for participation in commodity exchanges was 47.80 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 45.00 to 51.00 percent.

The services belongs the 'participation in commodity exchanges' such as 'motivate and provide guidance for participation in commodity exchanges (51.00 percent)', 'helps to determine the rules and procedures for community contracts (49.00 percent)', 'providing a market place in suitable and convenient location (47.00 percent)', 'creating awareness in reducing the risk during the exchange (47.00 percent)' and 'providing services related to goods and contract trade (45.00 percent) were comparatively less effective for beneficiaries. It could be inferred that the overall effectiveness of participation in commodity exchanges was less compare to other enabled services of farmer producer organization. This may be the reason beneficiaries felt new and highly difficult for them to initiate. Hence the beneficiaries felt much needed attention in this area, which exchanges offer a continuous and fair market for the price discovery and free from middle man.

**Export**

The results of Table 1 showed that the total effectiveness score for export was 48.83 percent, whereas the scores for individual aspects indicating its relative effectiveness ranged from 46.00 to 51.00 percent. The services under the 'export' such as 'helps to assess the requirements in export marketing (51.00 percent)', 'helps to export as part of the overall business (51.00 percent)', 'helps to maintain the correct documents of files and bills (49.00 percent)', 'helps to assess each market and its value (48.00 percent)', 'helps to facilitate accounting services (48.00 percent)' and 'helps to manage financial, payment and risk in export (46.00 percent)' were less effective for beneficiaries. It could be inferred that the overall effectiveness of export were less compare to other enabled services. This may be the reason the beneficiaries are not willing to take risk in this area. They had lack of awareness and experience in export sector. Hence the beneficiaries of farmer producer organization felt much-needed attention and various training programs in this area of export, which promote the farming community to market their products and earn a good income. This findings will derives the support from Kadari [23].

**B. Rank-wise effectiveness score of enabled services provided by farmer producer organizations**

As depicted in the Table 2 the rank wise distribution is based on the effectiveness score of each dimension which is reflected in the overall effectiveness of the enabled services of the farmer producer organization (80.02 percent).

It is clear from the Table 2, 'disseminating market information (97.20 percent)' ranked first, was very effective among all dimensions of enabled services of farmer producer organization. It is followed by the services 'disseminating technology and innovation, 'procurement of inputs' and 'primary processing like

drying, cleaning and grading' with 95.50 percent, 93.16 percent and 89.33 percent respectively, occupying the second, third and fourth service positions. The services 'brand building, packaging, labelling and standardization (88.00 percent)' ranked fifth, 'marketing to institutional buyers (85.66 percent)' ranked sixth, 'aggregation and storage of produce (81.60 percent)' ranked seventh, 'facilitating finance for inputs (78.66 percent)' ranked eight and 'quality control (74.50 percent)' ranked ninth according the score.
With scores ranging from 74.50 percent to 97.20 percent, the above services benefit users as effective and very effective. The services related to 'export' and 'participation in commodity exchanges' ranked last two ranks with the score of 48.83 percent and 47.80 percent respectively. This might be due to lack of interest and awareness among the beneficiaries about these services. Creating awareness of these services by FPOs might solve the issues and it may be very profitable for the beneficiaries.

**Table 2.** Rank-wise effectiveness score of enabled services provided by farmer producer organizations

| Rank | Dimensions | Effectiveness score |
|---|---|---|
| **I** | Disseminating market information | 97.20 |
| **II** | Disseminating technology and innovation | 95.50 |
| **III** | Procurement of inputs | 93.16 |
| **IV** | Primary processing like drying, cleaning, and grading | 89.33 |
| **V** | Brand building, packaging, labeling, and standardization | 88.00 |
| **VI** | Marketing to institutional buyers | 85.66 |
| **VII** | Aggregation and storage of produce | 81.60 |
| **VIII** | Facilitating finance for inputs | 78.66 |
| **IX** | Quality control | 74.50 |
| **X** | Export | 48.83 |
| **XI** | Participation in commodity exchanges | 47.80 |
| **Overall enable service effectiveness** | | **80.02** |

## CONCLUSION

The results revealed that the majority of beneficiaries were satisfied with the overall enable services, revealing that the effectiveness score for 'disseminating market information (97.20 percent)' was the highest. The FPOs in the study area primarily deal with marketing services after their success they tend to widen their market opportunities by entering into processing and value addition.
Subsequently, the results of the study confirm that services 'disseminating of technology and innovation (95.50 per cent)', 'procurement of inputs (93.16 percent)', 'primary processing like drying, cleaning and grading (89.33 percent)', 'brand building, packaging, labelling and standardization (88.00 per cent)', 'marketing to institutional buyers (85.66 per cent)', 'aggregation and storage of produce (81.60 percent)', 'facilitating finance for inputs (78.66 percent)' and 'quality control (74.50 percent)' provide great benefits to the beneficiaries. The findings show that the FPOs address the challenges of smalland marginal farmers and overcome it through the services like aggregating their produce in order to fetch better prices and to support and gave proper guidance in the areas of purchase of inputs, transport facilities, primary and secondary processing.The effectiveness of enabling services was perceived to be very effective as reflected in the overall effectiveness score of 80.02 percent. However, the study reveals that the lagging services such as 'export (48.83 percent)' and 'participation in commodity exchanges (47.80 percent)' were least effectiveness among the beneficiaries. It shows that even though considerable efforts have been made to achieve the effectiveness of the enabled services, there still remains a lacuna which needs to be filled.
The farmer producer organization does require support and guidance to fulfil that lagging part in the areas of export and participation in commodity exchange, both the services play a major role for the beneficiaries to get better market value for their products and to help to avoid the losses of their production. This will make overall enabled services of farmer producer organization will be more effective and to motivate the other fellow farmers to join the farmer producer organization. FPOs need to be encouraged in agriculture sector to make agriculture remunerative and profitable which will attract and retain rural youth in agriculture.

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