## Research Article

# PERCEPTION OF FARMERS TOWARDS DEVELOPMENT PROGRAMMES IN KERALA STATE

## DARSANA S.* AND SURESHA S.V.

Department of Agricultural Extension, University of Agricultural Sciences, Bangalore,560065, Karnataka, India
*Corresponding Author: Email - darsanasambhu@gmail.com

**Abstract:** The present study was conducted in Palakkad district of Kerala state to assess the perception of farmers towards the development programmes implemented by the state. Expost facto research design was employed with the sample size of 210 beneficiaries. The overall mean score of perception was 3.44. Maximum score (4.19) was obtained for the statement 'financial support from development programmes attract the farmers more'. About 37.61 percent of beneficiaries belonged to medium level of perception. About 36.67 percent farmers of the rice-coconut-vegetable combination and rice-vegetable combination had high perception. About 33.33 percent farmers of rice farming, 40.00 percent of coconut-vegetable combination, 50.00 percent of rice-coconut combination, 53.33 percent of vegetable farming had medium perception and 33.33 percent of coconut farming had low perception towards development programmes. Total perception score was highest for rice-coconut-vegetable combination (70.62) and lowest for coconut farming (51.34).

**Keywords:** Research design, Coconut farming

## Introduction

Agriculture sector continues to be the single largest contributor to the economy and the livelihood option for two-quarters (58.00 %) of the rural household. Indian farmers have to feed the growing population, while multitude problems of land, input, market, and policy struck the farmers in the mid-way. In spite, farmers remained in agriculture as it been the like, life and culture for them. Based on the importance of the agricultural sector the Government of India has emphasised on providing schemes and incentives to various stakeholders. Agricultural development programmes focus on financial and technical assistance to farmers by means of increasing investment, improving farm practices, rural infrastructure, delivery of credit, technology and other inputs. Different programmes under Ministry of Agriculture and Farmers Welfare are classified in to twelve different themes as agricultural insurance, soil health conservation and micronutrients, irrigation and other schemes, agricultural marketing, organic farming, horticulture, seeds, mechanization, training and extension for farmers, agricultural credit, plant protection, and sustainable agriculture. Earlier literatures of Darsana and Ravichandran (2013)[1] on labour bank schemes, Darsana and Babu (2017) [2] on LEADS scheme, Hinduja *et al.* (2017)[3] on Agri Kiosk and networking through Mobile SMS were focused to assess the perception of farmers on individual development programmes in the state. Though Kerala state implement enough number of development programmes in agriculture, it witnessed a significant decline in agricultural production and farm households in the last few decades. In this scenario, a study was undertaken to assess the perception of farmers towards the existing development programmes so as to assess the effectiveness of socio-economic objectives of the programmes. In spite of the individual development programmes, the present study considered all the development programmes in total implemented by the state during the period of 2017-18.

## Methodology

Perception in the study was operationally defined as the psychological awareness of the development programmes as it is the prerequisite to get an overall understanding of the farmers' feel towards the programme. The study was conducted in Palakkad district of Kerala state, with an ex-post facto research design. Chittur and Kuzhalmannam blocks were selected based on the ratio of cultivator population to total population. The development programmes designed and operated by Government institutions for the improvement of farming in the study area were considered. Since rice, coconut and vegetables were the major crops in the blocks, development programmes on rice, vegetables and coconut were purposively selected for the study. Programmes operating in the selected blocks for more than three years were prioritized. Dataset retained an equal representation of sample from both the blocks. As most of the farmers in Kerala used to grow rice, coconut and vegetables in combinations, selection of a large number of respondents specifically from mono-cropping of the selected crops would be the challenging factor for the study. Thus the respondent selection considered farmers with the single crop, two crops and three crops combinations with rice, coconut and vegetables. For the present study respondents under seven combinations were identified. Rice farming, coconut farming, vegetable farming, rice-coconut combination, rice-vegetables combination, coconut-vegetables combination and rice-coconut-vegetables combination were the combinations. Simple random sampling was used for respondent selection. Thirty each in seven combinations formed a total of 210 respondents. All the respondents availed the benefits of one or more development programmes. Scale was constructed for the analysis of perception towards development programmes following the method of summated rating suggested by Likert (1932) [4] and Edwards (1969) [5]. The collected perception statements were subjected to validity, reliability tests and thus standardized. Pretested scale with eighteen statements were administrated to farmers on five-point continuum *viz*; most important, important, undecided, less important and not important with weightage of 5, 4, 3, 2, 1 respectively. The data was collected using the structured pre-tested interview schedule. The collected data were tabulated and analysed using Cumulative Square Root Frequency Method, mean, standard deviation and post hoc of Kruskal –Wallis test.

Table-1 Perception of beneficiaries towards development programmes (n=210)

| SN | Statements | Mean | SD | Rank |
|---|---|---|---|---|
| 1 | Financial support from development programmes attracts the farmers more | 4.19 | 0.78 | 1 |
| 2 | Development programmes promote scientific practices in agriculture | 4.06 | 1.22 | 2 |
| 3 | Staffs of implementing offices are ready to give technical assistance at any time | 3.82 | 0.62 | 3 |
| 4 | The programmes enhances farmers effectiveness in activities | 3.69 | 1.00 | 4 |
| 5* | There are minimum programmes for mitigation of climate vulnerability | 3.66 | 0.81 | 5 |
| 6 | Farmer is satisfied with the benefits from ongoing programme | 3.51 | 1.14 | 6 |
| 7 | Participation in programme has raised the social acceptance of farmers | 3.63 | 0.91 | 7 |
| 8 | Programme aids to increase income level of the farmer | 3.55 | 1.23 | 8 |
| 9* | Availing a programme benefit is a time consuming activity | 3.50 | 1.16 | 9 |
| 10 | Farmer has increased the area under cultivation after being the beneficiary ofprogramme | 3.48 | 1.05 | 10 |
| 11 | Adequate quantity of inputs are supplied under the programmes | 3.32 | 1.05 | 11 |
| 12* | Programme does not cover location specific farmer problems | 3.52 | 1.10 | 12 |
| 13* | Most of the programmes are of propaganda, less useful tofarmers | 3.11 | 1.19 | 13 |
| 14* | Development programmes were incapable to encourage farmers to continue farming enterprises | 3.04 | 1.01 | 14 |
| 15* | There is no reduction in farming expenditure after following the practices under the programme | 3.02 | 1.01 | 15 |
| 16 | Programmes cover market support for produces | 3.00 | 1.03 | 16 |
| 17* | There are no effective trainings programmes conducted on technologies for the farmers | 2.99 | 0.87 | 17 |
| 18* | Technologies promoted under the programmes are not low cost in nature | 2.91 | 1.05 | 18 |
| | Overall mean | 3.44 | | |

*Indicate negative statement

## Results and discussions
### Perception of beneficiaries towards development programme
### Statement wise perception towards development programmes

The mean score of each statement of perception was calculated [Table-1]. The mean values of statement varied from 2.91 to 4.19, whereas standard deviation was in the range of 0.62 to 1.23. The perception statements with mean values of more than four showed a high degree of departure from important to most important. Mean values in the range three to four indicated a good signal of perceiving the importance of statements from undecided situations. Statements with low and high standard deviation explained the similarity and variation in responses respectively among the beneficiaries. Overall mean score for the 18 perception statements was found to be 3.44. Beneficiaries ranked 'financial support from development programmes attracts the farmers' and 'development programmes promote scientific practices in agriculture' as first and second based on the mean score. Though most of the development programmes included technical and financial interventions, farmers found interested in later component. One of the primary objectives of any development programme is to promote scientific agricultural practices. High mean score (4.06) and second rank of the statement implicated the achievement of existing programmes to convey the objective in an effective manner. The positive statements 'staffs of implementing offices are ready to give technical assistance at any time' (3.82), 'programmes enhances farmers effectiveness in activities' (3.69), 'participation in programme has raised the social acceptance of farmers' (3.63),'programme aids to increase income level of the farmer' (3.55) and 'farmer is satisfied with the benefits from ongoing programme' (3.51) also scored more than overall average (3.44). Observations were made at the time of data collection on good relationship of beneficiaries with extension staff in different extension programmes in general and trainings in specific. Farmers' expressed their gratitude to ATMA trainers for effective training sessions on pest surveillance. Vegetable farmers were highly satisfied with the interventions of VFPCK and rice farmers felt happy towards the scheme like upland rice cultivation incentives of department of agriculture and assistance for land preparations (uzhavukooli) under local administrations to meet the farming expenses. Farmers possessed low perception to the statements like 'adequate quantity of inputs are supplied under the programmes' (3.32) and 'programmes cover market support for produces' (3.00). Subsidised rice seeds are provided by the department of agriculture and vegetable seeds by both department and VFPCK. Farmers in villages of Kuzhalmannam block, faced the crisis of untimely availability of rice seeds under the schemes in department of agriculture and this caused late sowing and thus yield loss. Also many input supply schemes under Coconut Development Boards were at the stage of malfunctioning in Chittur block, which triggered a hike in cost of cultivation in coconut farming. Though rice procurement was done by Civil Supplies Corporation, farmers had to wait for three to six months to receive the procurement price. Though VFPCK conduct co-operative marketing programmes, the schemes were not effective in all the panchayaths. No Government interventions were identified for coconut marketing in the study area. Negative statements with mean score less than the overall average (3.44) were 'technologies promoted under the programmes are not low cost in nature' (2.91) 'there are no effective trainings programmes conducted on technologies for the farmers' (2.99),'there is no reduction in farming expenditure after following the practices under the programme'(3.02), 'development programmes were incapable to encourage farmers to continue farming enterprises' (3.04), and 'most of the programmes are of propaganda, less useful to farmers' (3.11). Low scores proved that beneficiaries do not have a negative perception on these statements. Farmers opined the Integrated Pest Management (IPM) practices and organic farming practices trained under LEADS and ATMA were of low cost in nature. Farmers experienced a reduction in farming expenditure especially in transportation cost for rice farmers; seed cost for vegetable farmers and follow up of scientific plant protection practices in coconut farming. Three negative statements perceived with high scores were 'availing a programme benefit is a time consuming activity (3.50), 'programme does not cover location specific farmer problems' (3.52) and 'there are minimum programmes for mitigation of climate vulnerability (3.66). These statements with greater mean score than overall average implicated that the beneficiaries had negative perception towards these components of development programmes. Farmers living in the interiors of villages found it difficult to travel frequently to the development agencies for getting information on various programmes, filing the applications for availing scheme benefits, to attend the meetings and to acquire the input services. Respondents in the study represented drought areas and faced the natural calamity problems and irrigation issues for long years. Most of the schemes were designed at state level and give less consideration for local problems. Fund allocation for drought assistance, crop loss subsidies and crop insurance were not sufficient to meet the existing problems in the study area. These views would deliver the reasons for higher scores of above mentioned negative statements.

### Overall perception towards development programmes

Beneficiaries were further classified into different levels of overall perception based on cumulative square root frequency method (CSFM).The five level categories of perceived ratings were very low, low, medium, high and very high. The result has been presented in tabular and graphical ways [Table-2]. Results showed that more than one-third (37.61 %) of the beneficiaries had medium level of perception with score range of 54 to 63. It was followed by high (21.90 %) level of perception with score in between 64 and 73. Only a meager percentage (8.75 %) of the beneficiaries were categorised in very low (< 48) perception level. More than one-fifth (19.04 %) remained in low (48-53) category and more than one-tenth (12.85 %) in very high (64-73) category.

The perception of beneficiaries on development programmes had been mostly exhibited as moderate level. This might be due to the effectiveness of existing programmes. Effectiveness could be attributed to technical services, staff support, training programmes, increased area of cultivation, rise in income, social acceptance and perceived satisfaction. Improvement in location specific programmes, climate mitigation activities and market support schemes would further increase the perception scores of very low and low category respondents. The findings of the present study are in concordance to the study results of Megbenka et al. (2015) [6] and Tossuo (2015) [7].

Table-2 Distribution of beneficiaries on overall perception towards development programmes, (n=210)

| SN | Category | Range | Frequency | Percentage | |
|----|----------|-------|-----------|------------|---|
| 1 | Very low | < 48 | 18 | 8.75 | Mean = 60.05 |
| 2 | Low | 48 - 53 | 40 | 19.04 | SD = 7.58 |
| 3 | Medium | 54 - 63 | 79 | 37.61 | |
| 4 | High | 64 - 73 | 46 | 21.90 | |
| 5 | Very high | >73 | 27 | 12.85 | |
| | Total | | 210 | 100.00 | |

**Crop combination wise perception towards development programmes**

An attempt was done to analyse the variation in levels of perception among the beneficiaries growing different crop combinations [Table-3]. One- third (33.33 %) of the rice farmers and coconut farmers were in the medium and low levels of perception respectively. None of the coconut farmer possessed very high level of perception. More than half (53.33 %) of the vegetable farmers were grouped to medium level of perception. In case of farmers growing rice-coconut combination, half (50.00 %) of the respondents were in medium and none of them fall in very low category. Majority of farmers practicing rice-vegetable combination had high (36.67 %) levels of perception. About 40.00 percent of farmers with coconut-vegetable farming were found to be in medium level. None of the farmers in three

crop combination (rice-coconut-vegetable) possessed a very low perception. And the results highlighted that more than one-third of the rice-coconut and vegetable combination (36.67 %) had very high level of perception. Rice farmers possessed medium level of perception. As the state gives major thrust to rice cultivation large number of programmes were implemented by different development agencies. Existing financial services tried to cover almost all the rice farmers in the state. Coconut farmers were availing minimum programmes during the period of 2016-17. Only the state sector schemes operated in both Chittur and Kuzhalmannam blocks. Ineffectiveness of earlier schemes like Keragramam and inadequate support from Coconut Development Board made the farmers under distress and retained a low perception to programmes. Vegetable farmers got kind and cash back up from department of agriculture, VFPCK, Kudumbasree, agricultural universities etc. Most of the agencies promoted and funded group farming in vegetables. It was observed that most of the vegetable farmers practiced group farming. These might be the reasons for majority of vegetable farmers to be in medium category. Farmers growing rice-coconut combination also indicated medium perception. All the farmers in the combination received benefits from rice development programmes, but expressed their difficulties with coconut programmes. Respondents in rice- vegetable farming departed from medium to high levels of perception. These farmers successively received the benefits for both the crops. Majority of the farmers growing coconut and vegetables combination concentrated more on coconut farming. Lack of Government support in coconut farming might be influenced their perception. Farmers practicing all the three, rice, coconut and vegetable had very high level of perception. Important observation made on these farmers was that they tried to manage all crops effectively, so as to get an almost equal share of the farm income from all the crops. Though coconut farming had a few interventions, farmers' satisfaction from rice and vegetable interventions reflected on their perception.

Table-3 Distribution of beneficiaries of different crop combinations on levels of perception towards development programmes, (n=210)

| SN | Category | Range | R(n=30) | | C(n=30) | | V(n=30) | | RC(n=30) | | RV(n=30) | | CV(n=30) | | RCV(n=30) | |
|----|----------|-------|---------|---|---------|---|---------|---|----------|---|----------|---|----------|---|-----------|---|
| | | | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1 | Very low | < 48 | 3 | 10.00 | 8 | 26.67 | 3 | 10.00 | 0 | 0 | 1 | 3.33 | 3 | 10.00 | 0 | 0 |
| 2 | Low | 48 - 53 | 6 | 20.00 | 10 | 33.33 | 8 | 26.67 | 3 | 10.00 | 3 | 10.00 | 6 | 20.00 | 4 | 13.33 |
| 3 | Medium | 54 - 63 | 10 | 33.33 | 9 | 30.00 | 16 | 53.33 | 15 | 50.00 | 10 | 33.33 | 12 | 40.00 | 7 | 23.33 |
| 4 | High | 64 - 73 | 8 | 26.67 | 3 | 10.00 | 2 | 6.67 | 8 | 26.67 | 11 | 36.67 | 6 | 20.00 | 8 | 26.67 |
| 5 | Very high | >73 | 3 | 10.00 | 0 | 0 | 1 | 3.33 | 4 | 13.33 | 5 | 16.67 | 3 | 10.00 | 11 | 36.67 |

**Comparative evaluation of perception towards development programmes between different crop combinations**

The mean perception scores for beneficiary farmers growing different crop combination and ranged from 51.34 to 70.62 [Table-4]. Kruskal –Wallis test was used to check whether significant difference existed between the different crop combinations. Chi-square value for the test was 61.95, and found to be significant at one percent level, indicating that the farmers belonging to different crop combinations were significantly different with respect to their perception towards development programme. Further post hoc of Kruskal Wallis ($\alpha$< 0.05) was used for comparative evaluation of perception between different crop combinations and results are represented in the tabular form [Table-4]. Result showed that beneficiaries in rice-coconut-vegetable combination had highest mean score (70.62) in perception towards development programmes. The value was significantly higher than mean perception values of rice only, coconut only, and coconut-vegetable combinations. Beneficiaries in the three crop combination availed the benefits from all the three crops. The financial and technical intervention scores of these farmers were also quite high compared to others, as discussed in earlier session. This might be the reason for higher perception of beneficiaries in this combination. Mean score of rice-vegetable combination (64.11) was significantly higher than coconut only and vegetable only farmers. More number of programmes implemented in rice and vegetables and availing benefits from both would have influenced in their higher perception. Farmers growing coconut only had least mean score (51.34) in perception. This was found significantly lower than farmers growing rice-coconut combination, rice-vegetable combination and rice-coconut-vegetable combinations. Minimum number of programmes and ineffectiveness of existing programmes was noticed in coconut

farming. Absence of enough trainings and group activities along with the minimum technical and financial interventions scores could be reason for the above observed result.

Table-4 Comparative evaluation of perception of beneficiaries growing different crop combinations, (n=210)

| SN | Crop combination | Sample (n) | Perception scores | | Test statistics |
|----|------------------|------------|-------------------|---|-----------------|
| | | | Mean score | SD | |
| 1 | Rice farming | 30 | 59.12[7] | 6.02 | Chi square value = 61.95*** (p=0.000) |
| 2 | Coconut farming | 30 | 51.34[4,5,7] | 8.79 | |
| 3 | Vegetable farming | 30 | 55.72[5,7] | 6.26 | |
| 4 | Rice-Coconut combination | 30 | 60.05[7] | 9.65 | |
| 5 | Rice-Vegetable combination | 30 | 64.11[2,3] | 7.87 | |
| 6 | Coconut- Vegetable combination | 30 | 58.56[7] | 9.39 | |
| 7 | Rice-Coconut-Vegetable combination | 30 | 70.62[1,2,3,6] | 6.80 | |

***Significant at 1% level, df=6,

Note: The superscript letters in bracket indicate combinations with significant difference at 5% level of probability, using post-hoc test of Krukal Wallis test.

**Conclusion**

Study has assessed the perception of farmers towards development programmes. Results revealed that beneficiaries possessed medium to high level of perception towards development programmes. Therefore it would be effective to involve representatives of rice, coconut and vegetable farmers in the core group during the preparation of village level action plan for the agricultural sector.

The seven different crop combinations differed significantly in their perception levels. These variations have to be taken care of by the policymakers, extension personnel while designing and implementing crop-based promotional activities. It could be recommended that the farmers who have better perception could be selected as reference leaders to promote the development programmes.

**Application of research**: This is a novel investigation to assess the perception towards development programmes of farmers growing different crop combinations. The study has assessed the perception difference between the farmers which could help the policy makers for better planning of crop based programmes in the Kerala state

**Research category**: Ex-post facto research design

**Abbreviations:**
LEADS- Lead Farmer Centered Extension Advisory and Delivery Services
SMS- Short Message Service
ATMA- Agricultural Technology Management Agency
VFPCK - Vegetable and Fruit Promotion Council of Kerala
CSFM - Cumulative Square Root Frequency Method

**Research guide or chairperson of the research: Professor Dr S. V. Suresha**
University: University of Agricultural Sciences, Bangalore,560065, Karnataka
Research project name or number: PhD Thesis

**Author contribution**: All authors are equally contributed

**Author statement**: All authors read, reviewed, agree and approved the final manuscript

**Conflict of interest**: None declared

**Ethical approval**: This article does not contain any studies with human participants or animals performed by any of the authors.

**References**
[1] Darsana S. and Ravichandran V. (2014) *Journal of Extension Education*,26(4), 5344- 5348.
[2] Darsana S. and Nitish B. (2017) *Trends in biosciences*, 10(17), 2066-2067.
[3] Hinduja N. A., Kishore K. N., Prakash R. and Thomas A. (2017) *International Journal of Science, Environment and Technology*, 6(5), 2925-2929.
[4] Likert R. A. (1932) *A technique for the measurement of attitudes.Archives Psy. New York*.
[5] Edwards A. L. (1969) *Techniques of Attitude scale construction. Vikils, Feger and Simons Pvt. Ltd., 9, Sport Road, Ballard Estate, Bombay*.
[6] Megbenka R. N., Igbokwe E.M. andMbah, E. N. (2015) *International Journal of Research Studies in Agricultural Sciences*, 1(2),19-25.
[7] Tossou A. G. (2015) *Agricultural Sciences*,6,