## SATISFACTION LEVEL OF BENEFICIARY FARMERS IN ACWM- AN ANALYSIS

## \*Aswathy R V, \*\*Dr. V S Joy

#### Abstract

Agriculture is different from industry and plays a significant role in the economic development of a nation. Agriculture is a vital activity that supports the survival of the human race by providing the required nutrition and minerals through the food grains. Planning Commission's 'India Vision-2020' represents the pre-estimates that the employment in agriculture will cut down to 40 per cent from the present level of 56 per cent during the coming next two decades. The statistical reports about Kerala also supported the statement, by revealing a declining drift towards agricultural activities. As a result of such a decline in the agricultural production, even the traders within the state need to gather poisoned agri products from the nearby states. Agricultural Commodity Wholesale Market (ACWM) is one of the latest updates from various agencies sponsored by the Government of Kerala. The present study was undertaken with a view to evaluate the level of satisfaction of beneficiary farmers towards various services offered by ACWM. For that 151 sample respondents were selected for the collection of data. The study concluded that the farmers can avail of more prices by selling their agriculture produce in the wholesale market, rather than in the local market. The present study also disclosed that the beneficiary farmers registered in both urban and rural market regions in ACWM in terms of their satisfaction level about various services of ACWM finds to be significant.

Keywords:- Agricultural Commodity, Wholesale Market, Farmers, Market Authority, Market Region, Agricultural Produce.

ndia is an agricultural economy and more than 50 per cent of its people depend on agriculture and subsistence activities for agriculture. Agricultural Commodity Wholesale Market is one of the latest updates from variousagencies sponsored by the Government of Kerala.

Another important aspect of the history of agricultural marketing in the state of Kerala is the establishment of six Agricultural Commodity Wholesale Markets (ACWMs) by the Government of Kerala to address the marketing problems facing the farmers.

\*Aswathy R V, Research Scholar, Department of Commerce, Government Arts College, Thycaud, Thiruvananthapuram,E-m,ail:rv.aswathyfeb23@gmail.com \*\*Dr. V S Joy, Special Grade Principal, Maharaja's College, Ernakulam. E-m,ail:drjoyvs@gmail.com

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These markets were established under the Kerala Agricultural Markets Project (KAMP) to support farmers in marketing their agricultural products through straightforward platforms without interference from intermediaries. Of the six ACWMs, three are located in cities, and the rest of the three markets are located in rural areas. ACWM urban centers are located in Anavara in Thiruvananthapuram, Maradu in Ernakulam, and Vengiri in Kozhikode districts. Rural markets operate in Nedumangad (Thiruvananthapuram), Muvattupuzha (Ernakulam), and Sultan Bathery (Wayanad). The present study is limited to the marketing of agricultural produce of ACWMs running in both urban and rural market regions in Thiruvananthapuram district in the state of Kerala concerning its effectiveness from the perspective of its direct beneficiary namely the farmers. The research endeavours to conduct a market region-wise analysis of the performance of the farmers.

#### 1. Review of Literature

According to **Ec&Kp (2021)**<sup>1</sup>, Kerala is one of the leading agricultural provinces in the country and is also one of the major producers of rubber, coconut, pepper and coir. The geography of the world extends beyond the Western Ghats, is patented by biodiversity and is known as 'Biodiversity Paradise'.

**Babu (2020)**<sup>2</sup>explored the challenges facing organic farming and marketing in India. This study aims to study the problems of marketing organic products, the challenges of organic vegetable farming and to develop appropriate strategies to promote organic farming in Kerala in India. The study found that farmers face a wide range of seed problems, lack of agricultural inputs, rising labour costs, low mechanical interventions, weather, lack of certificates and no funding for organic products. After understanding all the challenges, the study proposed the EVM Model.

**Deepak Varshney (2020)**<sup>3</sup>analyzed the effect on wholesale prices and quantities exchanged in agricultural markets of the spread of COVID-19 and the lockdown. They compared the effects between non-perishable (wheat) and perishable (tomato and onion) goods by using a granular data set consisting of 3 months of daily observations from approximately 1000 markets across five states.

## 2. Significance of the Study

Agriculture is the only way of life for more than half of the working class in India. However, in recent years the people of Kerala have shown reluctance to engage in agricultural activities due to rising labour costs, fertilizer and lack of adequate technical services, etc. to meet their modern needs for use. Marketing agricultural products became one of the major problems near natural disasters. Farmers need to rely on the big local markets to sell their large quantity of naturally perishable products. Most farmers need to travel long distances to reach local markets by incurring high travel costs. They could also afford to pay the price if they could sell their product at areasonable price. But mediators' interventions in local markets exploit farmers by charging additional costs such

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as commissions, viewing salaries, and more. Since 1999, ACWMs have been working under the support of the government to overcome the marketing problems of farmers. Given the importance of agricultural marketing, it is appropriate to review the role of ACWM and to evaluate the performance of these markets in line with their proven objectives. It is hoped that theresults of the research work will be useful to policy makers, market authorities, and market shareholders.

### 3. Scope of the Study

The scope of the present study is limited to the marketing of agricultural produce of ACWMs running in both urban and rural market regions in Thiruvananthapuramdistrict in the state of Kerala concerning its effectiveness from the perspective of itsdirect beneficiary namely the farmers. The research endeavours to conduct a market regionwise analysis of the performance of the farmers. The assessment of satisfaction of the beneficiary farmers towards several services and abilities of the ACWMs comes under the purview of the present work.

## 4. Statement of the Problem

In the state of Kerala, the government recently took many steps to overcome agricultural issues. However, the current report shows that farmers are still not free from the problems in the market for their agricultural produce. The government of Kerala has established ACWMs to overwhelm the marketing problems of farmers in the province and to inspire direct marketing by farmers and avoid misuse by the middle class. These

markets have been working in the state with a sequence of initiatives and activities to support the farmers in the state. Now we have moved from unorganized to organized sector. The farmers are still not entirely free from the previous dilemma. At this juncture, an investigation on the marketing concerns confronted by farmers in dealing with agricultural produce in Kerala becomes verv significant and useful. So far no effort has been made to conduct a comprehensive and complete study to estimate the marketing of agricultural produce in terms of the effectiveness of ACWMs by covering all of its nook and corners. Thus at this juncture, the current study helps to appraise the satisfaction level of farmers for numerous services untaken by ACWM.

#### 5. Objective of the Study

The main objective of the study is to evaluate the level of satisfaction of beneficiary farmers towards various services offered by ACWM.

## 6. Hypotheses

The subsequent hypotheses based on the objectives of the study are:

- H01: There is no significant difference between urban and rural farmers with respect to their level of satisfaction with ACWM services.
- H02: There is no significant difference in relationship among variables under study in terms of farmer's level of satisfaction about ACWMs services.

## 7. Variables

The detailed list of dependent and independent variables are quoted below:

# List of Dependent and Independent Variables

Dependent Variable	Independent Variables
Farmers' Satisfaction	Transport subsidy Grading system Auction procedure Co-operation of market officials and staff Reduction of wastage

### 8. Methodology

Research methodology is a way to thoroughly show the research problem. It may be agreed as a science of studying how research is done systematically. The research methodology adopted for the study is given below:

## 8.1 Research Question

The present research attempts to examine the following major issue.

• How satisfied are the beneficiary farmers with the numerous services offered by ACWM?

## 8.2 Research Design

In this research, both descriptive and analytical design in the form of a survey method based on both primary and secondary data were used to carry out the research work.

## 8.3 Research Approach

In this study survey method is used as a research approach. Throughout the research work researcher, she accumulates data from respondents by using an interview schedule.

## 8.4 Research Instrument

The instrument used for this study is an interview schedule. It was organized in asequence. It was kept crisp as possible to make it easier for the respondents to VOL. XXX NO.1 JAN-MAR 2024

answer. Theschedule comprises close-ended questions and Likert scale questions.

## 8.5 Sample Design

In the state of Kerala currently, six Agricultural Commodity Wholesale Markets are working under Kerala Agricultural Markets Projects (KAMP) for the enlargement of agricultural markets in the state. Among the six markets, three of them are located in the urban region, and the rest of the three are positioned in the rural regions. The present study was conceded out among beneficiary farmers functioning in both urbanand rural market regions in Thiruvananthapuram. The method for selecting the sample size and other details of the sample is given below:

## 8.6 Population

The population considered for the study is registered farmers of ACWMs in Thiruvananthapuram. There are 250 farmers registered with ACWM as on 30<sup>th</sup> June 2023.

## 8.7 Sample Unit

Beneficiary farmers who are registered in both urban and rural market regions of ACWM in Thiruvananthapuram are the sample units intended for the study.

## 8.8 Sample Size

The sample size for the study is 151 beneficiary farmers who are listed with urban and rural ACWMs regions in Thiruvananthapuram.

## 8.9 Sampling Procedure

Population of the beneficiary farmers who are registered in ACWM is finite in nature. The sample size of the beneficiary

farmers will be obtained by using the samplecalculation formula. The sample covers 60.4 per cent (ie. 151/250) of the total population. Samples from each market in urban and rural regions are selected by using proportionate random sampling technique. The details of population of beneficiaryfarmers in each market region and the sample size selected are revealed in Table 1.

#### 8.10 Method of Data Collection

Data have been collected in two ways. They are:

#### 8.10.1Primary Data

The primary data were collected from registered farmers of the selected area, by usingastructured, self-administered interview schedule.

#### 8.10.2 Secondary Data

Secondary data were used to create a theoretical background in the area of ACWM.The data are grouped from various sources such as annual reports and other records of ACWMs, data offered on the internet through websites, monthly progress reports of ACWMs, periodicals, journals, and magazines, etc.

#### 8.11 Tools and techniques of analysis

A structured interview schedule is used for collecting the required data from

the respondents. For data analysis; IBM Statistics 25.0 has been used. Parametric tests were used for analysis as the data are normal. Inferential statistics is carried out using Friedman's Test.

## 9. ANALYSIS AND INTERPRETATIONS

# Satisfaction Level of Beneficiary Farmers

In this section the satisfaction level of farmers are analysed on the basis of five factors; "Transport subsidy", "Grading system", "Auction procedure", "Co-operation of market officials & staff" and "Reduction of wastage" which is measured in five point scale (5- Highly Satisfied, 4- Satisfied, 3- Neutral, 2-Dissatisfied, 1-Highly Dissatisfied).

## 9.1 Level of Satisfaction about ACWMs Services based on Market Region

Independent-Sample t-Test is used to test whether there exists any statistically significant difference between the beneficiary farmers registered in both urban and rural market regions in ACWM in terms of their satisfaction level about various services of ACWMs. The mean score has been used for analysing the differences, if any. A large mean score indicates high difference between the

Market	Population	Proportion	Sample Selected
Anayara	153	0.612	92
Nedumangad	97	0.388	59
Total	250	100	151

 Table 1

 Selection of Sample Beneficiary Farmers in ACWMs

Source: Primary Data

opinion of the two different study groups and a smaller t score depicts more similarity between the groups. The opinion of the farmers registered with ACWMs are collected and tested statistically with the help of hypothesis.

The hypotheses used are:

**H0:** There is no significant difference between urban and rural farmers with respect tot heir level of satisfaction about ACWM services.

H1: There is significant difference between urban and rural farmers with respect to their level of satisfaction about ACWM services.

The results obtained from the test is presented in Table 2

Table 2 shows, the opinion of urban and rural farmers about the level of satisfaction and to know whether there is statistically significant difference, "t-test"

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was applied and the results obtained are stated here. In case of variables supporting farmer's satisfaction; "Transport subsidy", "Grading system", "Auction procedure", "Co-operation of market officials and staff" and "Reduction of wastage", the t value is found to be significant since, p value is below 0.05 (p<0.05) at 5 per cent level of significance. So, *the null hypothesis is got rejected.* Hence, it is evident that there is significant difference between urban and rural farmers with respect to their level of satisfaction about ACWM services.

While considering the opinion of farmers in urban and rural market region in ACWM about the "overall level of satisfaction about ACWMs services", based on t-test exposed that most of the respondents fall under the urban market region as they have higher mean score and rest of them with lowest mean score comes under rural market region. The overall satisfaction about various services

	Market Region					
Variable	Urban		Rural		t-value	p-value
	Mean	SD	Mean	SD	-	
Transport subsidy	4.740	0.442	3.030	0.982	14.540	< 0.05**
Grading system	4.490	0.503	2.680	0.918	15.635	< 0.05**
Auction procedure	4.620	0.488	2.390	1.145	16.508	< 0.05**
Co-operation of market officials and staff	4.520	0.502	2.560	1.164	14.256	<0.05**
Reduction of wastage	4.510	0.503	2.310	0.815	20.585	<0.05**
Overall Satisfaction about ACWMs Services	22.880	2.223	12.966	4.803	17.161	<0.05**

Table 2

Level of Satisfaction about ACWMs Services Based on Market Region

Source: Primary Data

offered also finds significant difference between market regions.

## 9.2 Satisfaction about Various ACWMs Services

The Confirmatory Factor Analysis (CFA) has also been used here for construct validation to examine the relationship between the constructs. The constructs are unobserved and theoretical. The Confirmatory Factor Analysis has been used here for construct validation to observe the relationship between variables under study in terms of farmer's level of satisfaction about ACWMs services.

The hypotheses may be stated as:

**H0:** There is no significant difference in relationship among variables under study in terms of farmer's level of satisfaction about ACWMs services.

H1: There is significant difference in relationship among variables under study interms of farmer's level of satisfaction about ACWMs services.

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The results obtained from the Confirmatory Factor Analysis is presented in Table 3

Here the CFA model reveals that out of 5 observed variables all the variables are significantly loaded on the latent construct farmers' level of satisfaction about ACWMs services as the recommended standardized regression coefficient value is more than 0.4. Here the 'p' value is also significant at 5 per cent level. So the null hypothesis got rejected. Hence, all the measured variables or constructhave a significant effect on the farmers level of satisfaction about ACWMs services.

The CFA model is tested with the model fit indices such as Chi-square, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normal Fit Index (NFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Residual (RMR) and Root Mean Square Error of Approximation (RMSEA). All the model fit values are

Validationwith CFA					
	Variables	Regression Coefficient	Critical Ratio (CR)	р	Variance Explaine d
	Transportsubsidy	0.946	7.478	< 0.05	0.124
ction	Gradingsystem	0.974	5.552	< 0.05	0.065
tisfa	Auctionprocedure	0.982	4.994	< 0.05	0.067
D Sai	Co-operation of market officials And staff	0.985	4.824	< 0.05	0.049
	Reductionofwastage	0.966	6.938	< 0.05	0.105

Table 3

Farmers Level of Satisfaction about ACWMs Services –Construct Validationwith CFA

Source: Primary data

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satisfactory in relation to its corresponding standards. (Table 4)

In a CFA model while rectangle represents observed variables such as response to question, oval or circle represents unobserved variables, the double - headed arrow (sometimes it may be curved) represents correlation or covariance among unobservedor latent variables. Again the single headed arrow in the model represents factor loading or regression coefficient from latent variables to observe the variables. The small circle with single headed arrows, pointing from the circle to the observed variables represents the measurement of error term for each observed variable. (Fig: 1)

Table 4

Farmers Level of Satisfaction about ACWMs Services – Model Fit for CFA

Indices	Value	Suggested value
Chi-squarevalue	3.049	-
DF	2	-
pvalue	0.218	>0.05 (Hairetal., 1998)
Chi-squarevalue/DF	1.524	<5.00 (Hairetal., 1998)
GFI	0.998	>0.90 (Huand Bentler, 1999)
AGFI	0.999	>0.90 (Hairetal. 2006)
NFI	0.992	>0.90 (Huand Bentler, 1999)
TLI	0.997	>0.90 (Huand Bentler, 1999)
CFI	0.999	>0.90 (Daireet al., 2008)
RMR	0.023	<0.08 (Hairetal. 2006)
RMSEA	0.059	<0.08 (Hairetal. 2006)

Source: Primary Data



Farmers Level of Satisfaction about ACWMs Services-Construct Validation with CFA



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## 10. Findings

The major findings emerged out of the study are:

The study disclosed that there is statistically significant difference between the beneficiary farmers registered in both urban and rural market regions in ACWM in terms of their satisfaction level about various services of ACWM. A large mean score indicates high difference between the opinion of the two different study groups and a smaller t score depicts more similarity between the groups. While considering the opinion of farmers in urban and rural market region in ACWM about the "overall level of satisfaction about ACWMs services" most of the respondents fall under the urban market region as they have higher mean score and rest of them with lowest mean score comes under rural market region. The overall satisfaction about various services offered also finds significant difference between market regions.

The respondents are of opinion that there is significant difference in relationship between variables supporting farmer's satisfaction about various ACWMs services. The Confirmatory Factor Analysis has been used here for construct validation to observe the relationship between variables under study in terms of farmer's level of satisfaction about ACWMs services. Here the CFA model reveals that out of 5 observed variables all the variables are significantly loaded on the latent construct farmers' level of satisfaction about ACWMs services as the recommended standardized regression coefficient value is more than 0.4. All the measured variables or construct have a

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significant effect on the farmers level of satisfaction about ACWMs services.

#### 11. Conclusion

ACWM is one of the latest updates from various agencies sponsored by the Government of Kerala. The history of agricultural marketing in the state of Kerala is the establishment of six Agricultural Commodity Wholesale Markets (ACWMs) by the Government of Kerala to address the marketing problems fronting farmers. These markets were recognized under the Kerala Agricultural Markets Project (KAMP) with the aim of supportive farmers in marketing their agricultural products on specific platforms deprived of interference from mediators. This research paper analysed the farmers satisfaction level in both market regions are different in terms of the service offered by ACWMs. The satisfaction level of farmers are analysed on the basis of five factors; "Transport subsidy", "Grading system", "Auction procedure", "Co-operation of market officials and staff" and "Reduction of wastage". Independent-Sample t-Test and Confirmatory Factor Analysis are used for evaluating the satisfaction level of beneficiary farmers. The overall satisfaction about various services offered also finds significant difference between market regions. The overall satisfaction about various services offered finds significant difference between market regions. The farmers in urban market region are highly satisfied as compared with farmers in rural market area.

#### 12. Suggestions

Based on the above findings and conclusion of the study, the following are

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the suggestions presented for improving the current situation.

ACWMs in Kerala are basically established with a motto to assist the traders and farmers. For the reason it is very essential for them to provide both general and additional facilities to the beneficiaries for their enhancement. Themarkets have to utilize their market fund for such purposes. If the market fundis found insufficient, Government by creating provisions in the budget canallocatenecessary fundsforsuch schemes.

Market authorities have to take up initiatives to implement modernized auctionfacilitiesas wellas improvedby wayofexhibiting theproduce.

ACWMs in urban and rural market regions must be cautious enough to manage and settle the dispute that arises between the HORTICORP staff and farmers. Market authority can insist the vegetables traders within the market authority to participate during the auctions and induces them to purchase the organic produces rather than purchasing the poisonous vegetable produces arriving from other states.

Even though markets in ACWM is in a better position in handling more quantities of produce, participation of HORTICORP could make the market as an outstanding one based on performance. Department can take up initiatives to implement sales centers of HORTICORP in markets itself, so that difficulties in respect to transporting of agriculture produce can be avoided.

Allowing refrigerated mobile van services to HORTICORP, so that the produces can be brought to markets without much delay and at the same time by maintaining its freshness.

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