

Consumer Satisfaction with Food Grains Distributed Through Public Distribution Systems in Kerala and Andhra Pradesh: An Economic Analysis

ABSTRACT

The study analyzed consumer satisfaction with food grains distributed through the public distribution system in Kerala and Andhra Pradesh. A multi-stage random sampling technique was adopted for the data collection and information was obtained from 240 respondents. Percentages and Likert's Scale Technique were used to analyze the level of consumer satisfaction. The survey in Kerala and Andhra Pradesh gauges public perceptions and satisfaction with the Public Distribution System (PDS). Key findings revealed that a notable satisfaction rate in both states regarding the quality of food grains, the helpfulness of PDS dealers, and the functioning of local outlets. While uncertainties persist regarding accessibility, regularity, and quantity sufficiency, the majority of the respondents in both states opined that PDS is significantly contributing to household food security. Respondents express contentment with billing systems, with slightly higher satisfaction in Kerala, and commend the E-POS and biometric systems. Security measures, such as biometric authentication, receive positive feedback. Overall, the survey indicates positive sentiments towards the PDS in both states, highlighting its pivotal role in ensuring food security and meeting public expectations.

KEYWORDS: AAY, APL, BPL, E-POS, Public Distribution System, PHH

INTRODUCTION

Ensuring access to food is crucial for the well-being of individuals, as outlined by the Food and Agriculture Organization (FAO, 2001). The Public Distribution System (PDS) in India stands as a vital food security initiative established by the Government of India under the Ministry of Consumer Affairs, Food, and Public Distribution initiated in June 1997. The PDS operates in conjunction with state governments with the primary objective of distributing essential grocery items to the economically disadvantaged, specifically those possessing valid ration cards. Traditionally, the PDS entails providing food grains to individuals and families with valid ration cards, acting as a mechanism to monitor eligibility and allocate subsidized food items to those in need. Commodities, including rice, wheat grains, wheat atta, sugar, red gram, and kerosene, are distributed through a network of PDS

outlets, commonly known as ration shops, established in various states across the country. Patnaik (2001) described the PDS as an expression of the economic unity of the constituent states of the Indian Union. In Kerala, individuals classified as below the poverty line (BPL) cardholders are entitled to receive 35 kg of specified food grains, while those above the poverty line are allocated 15 kg of food grains according to PDS regulations. In Andhra Pradesh, families below the poverty line are eligible for 35 kg of rice or wheat per month for Antyodaya Anna Yojana cardholders, whereas households with Priority House Hold (PHH) cards receive 5 kg of food grain per unit each month. However, concerns have been raised regarding the effectiveness of the allocation process. In this context, the present study analysed consumer satisfaction of food grains distributed through the PDS system in Kerala and Andhra Pradesh.

METHODOLOGY

Primary data on consumer satisfaction towards food grains distributed through Public Distribution System will be collected from the respondents using a pretested structured interview schedule. The primary data was used for analysing the specific objectives of the study by using percentage analysis, tabular analysis and Likert scale. The questionnaire consists of open-ended and close-ended questions. A form containing a set of questions was submitted to the BPL and APL cardholders to gain statistical information. Structured questions in which possible answers are suggested and they had to choose from the given options. Possibility sampling is a sampling technique, wherein the samples are assembled in a process that gives all the individuals in the population, who have equal chances of being selected. One block panchayat (mandal) will be purposively selected with maximum BPL cards from each district. From the selected block panchayat, two gram panchayaths will be selected randomly. In kerala, from each of the selected grama panchayaths, 30 BPL beneficiaries and 30 non-BPL beneficiaries will be selected randomly. In Andhra Pradesh, from each of the selected grama panchayaths, 60 BPL beneficiaries will be selected randomly. Thus the total sample size of the respondents will be two hundred and forty.

Analytical tools and techniques

Percentages

Percentage calculations were employed to analyze the socioeconomic attributes of the respondents, including factors such as age, education, gender, family size, income, etc.

Likert's Scale Technique

A Likert scale is a psychometric scale commonly involved in research that employs questionnaires. It is the most widely used approach to scaling responses in survey research. A Likert item is simply a statement that the respondent is asked to evaluate according to any kind of subjective or objective criteria and the level of agreement or disagreement is measured and the score is given. This Likert scale technique was used for the analysis of the satisfaction of consumers towards food grains through PDS (Devakrupa, 2018).

List 1 : Likert scale used for analysis of the satisfaction of consumers towards food grains through PDS

Sl.No	Response	Score
1	Excellent	5
2	Good	4
3	Undecided	3
4	Bad	2
5	Very bad	1

The Scores were summed up, and the mean of each attribute was calculated and satisfaction levels were ranked based on it. The mean score was used for a simple comparison of the level of satisfaction. The mean score was calculated by using the following formula.

$$\text{Mean score} = \frac{\sum_{i=1}^n W_i X_i}{\sum_{i=1}^n X_i}$$

where,

W_i : Weight of the variable.

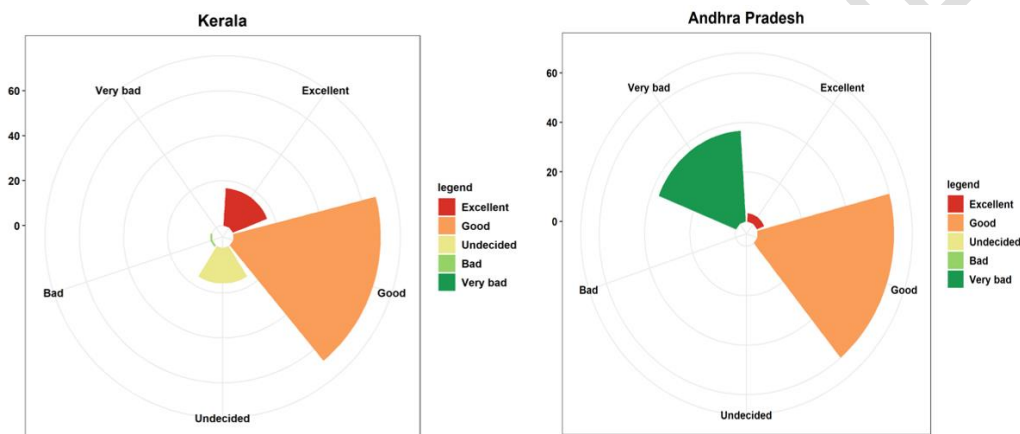
X_i : Variable.

Results and Discussion

Perception about the quality of food grains.

In Kerala, 16.67 per cent of the respondents expressed an excellent opinion about the quality of food grains received from PDS, while 66.67 per cent of the respondents reported that the quality was good. About 15.83 per cent of the respondents remained undecided and 0.83 per cent of the respondents expressed their dissatisfaction with the quality of food grains. In Andhra Pradesh, only 3.33 per cent of the respondents expressed that the quality was excellent, while 60 per cent of the respondents reported that the quality of food grains was good, and 36.67 per cent of the respondents were undecided about the food grain quality. Notably, none of the respondents rated the quality of food grains as very bad (Fig. 1).

Fig.1. Perception about the quality of food grains.



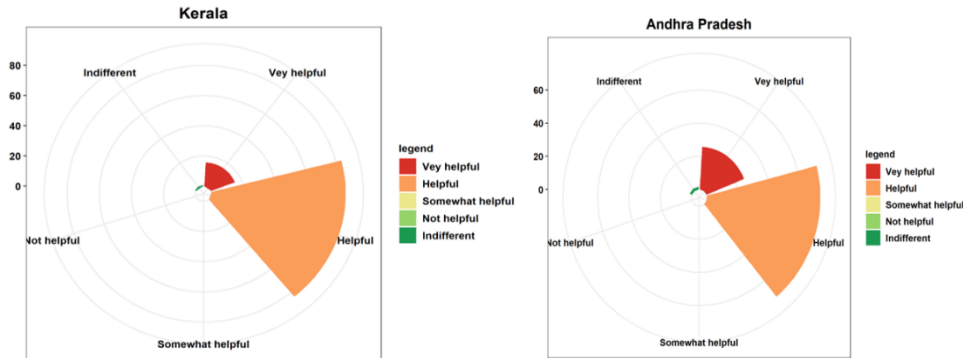
A study conducted by Ghumaan and Dhiman (2014) in Punjab concerning the Public Distribution System (PDS) revealed diverse perspectives on food grain quality. In rural areas, 54 per cent of the respondents rated the quality of food grain as good, 28 per cent were undecided, and 18 per cent had negative views. Two per cent of the respondents residing in urban areas expressed that the quality of food grain as excellent and 50 per cent expressed that the quality was good and 32 per cent were undecided.

Perception of consumers about the attitude of PDS dealer

The fig.2. showed that in Kerala, the majority of the respondents (83.34%) expressed that the attitude of dealers was found to be helpful and 15.83 per cent of the respondents expressed that the dealers were very helpful. Only a small per cent of respondents (0.83%) were undecided about the attitude of PDS dealers. It was also noted that none of the respondents in the study area felt that dealers were somewhat helpful and not helpful. In Andhra Pradesh, 72.50 per cent of the respondents felt that PDS dealers were helpful, 25.83 per cent of the

respondents felt that dealers were very helpful and only 1.67 per cent of the respondents were undecided and none of the respondents felt somewhat helpful and not helpful about the attitude of PDS dealers.

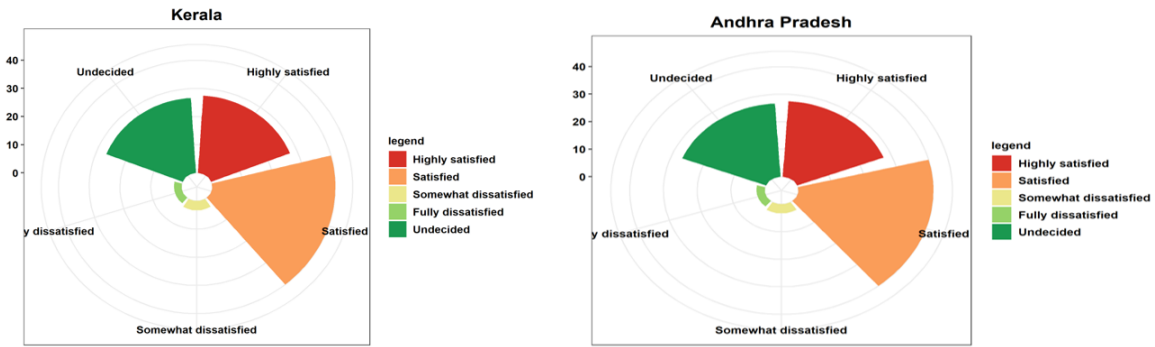
Fig.2. Perception of consumers about the attitude of PDS dealer



Level of satisfaction with the function of the local PDS outlet

The fig.3. showed that in Kerala state, 42.5 per cent of the respondents were highly satisfied with the local PDS outlet, 55.83 per cent of the respondents were satisfied and 1.67 per cent of the respondents were somewhat dissatisfied. Notably, none of the respondents were undecided and fully satisfied about the functioning of local PDS outlet. In Andhra Pradesh, 27.50 per cent of the respondents were highly satisfied with local PDS outlet, 40 per cent of the respondents were satisfied, 26.67 per cent of the respondents were undecided. Only 3.33 per cent of the respondents were somewhat dissatisfied and 2.5 per cent of the respondents were fully dissatisfied towards the functioning of local PDS outlet.

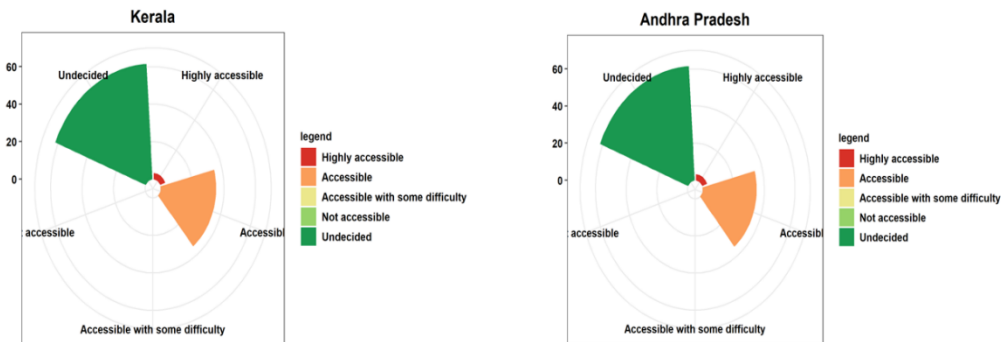
Fig.3. Level of satisfaction with the function of the local PDS outlet



Accessibility to PDS outlet by the respondents

The fig.4. showed that in Kerala, 26.67 per cent of the respondents felt highly accessible, 30 per cent of the respondents felt accessible, 43.33 per cent of the respondents were undecided and none of the respondents felt accessible with some difficulty and not accessible. In Andhra Pradesh state, 3.33 per cent of the respondents felt excellent, 35 per cent of the respondents felt good, 61.67 per cent of the respondents were undecided and none of the respondents felt accessible with some difficulty and not accessible about the accessibility of PDS.

Fig.4. Accessibility to PDS outlet by the respondents

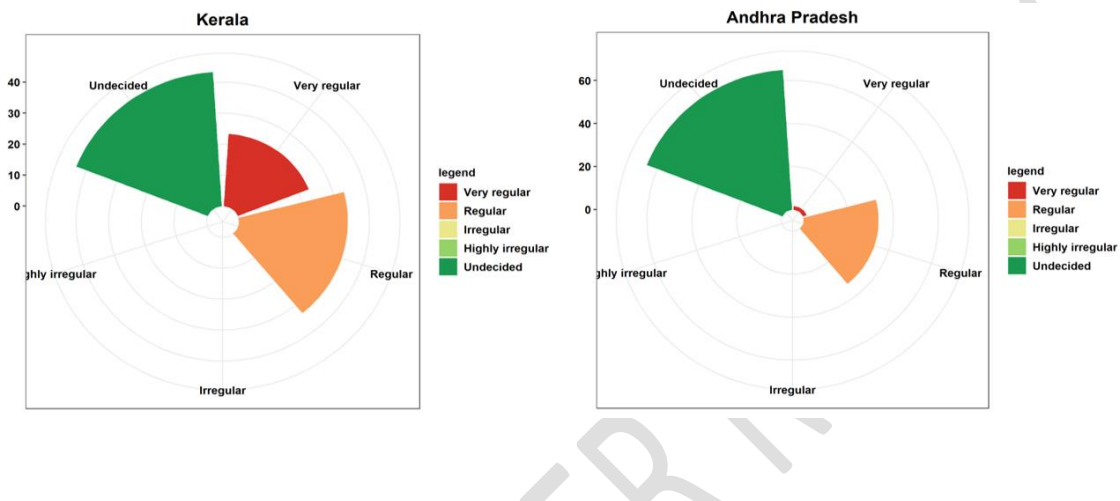


The observations were in line with the results of the study conducted by Nair (2022) in Thiruvananthapuram district, where the accessibility of PDS of 56 per cent of respondents was better, 39 per cent of respondents felt the same, 1 per cent respondents felt worse and 4 per cent respondents felt can't say.

Regularity in functioning of PDS outlet

The fig.5. shows that in Kerala state, 23.33 per cent of the respondents felt very regular, 33.33 per cent of the respondents felt regular, 43.34 per cent of the respondents were undecided and none of the respondents felt irregular and highly irregular. In Andhra Pradesh state, 1.67 per cent of the respondents felt very regular, 33.33 per cent of the respondents felt regular, 65 per cent of the respondents were undecided and none of the respondents felt irregular and highly irregular about the regularity in the functioning of PDS.

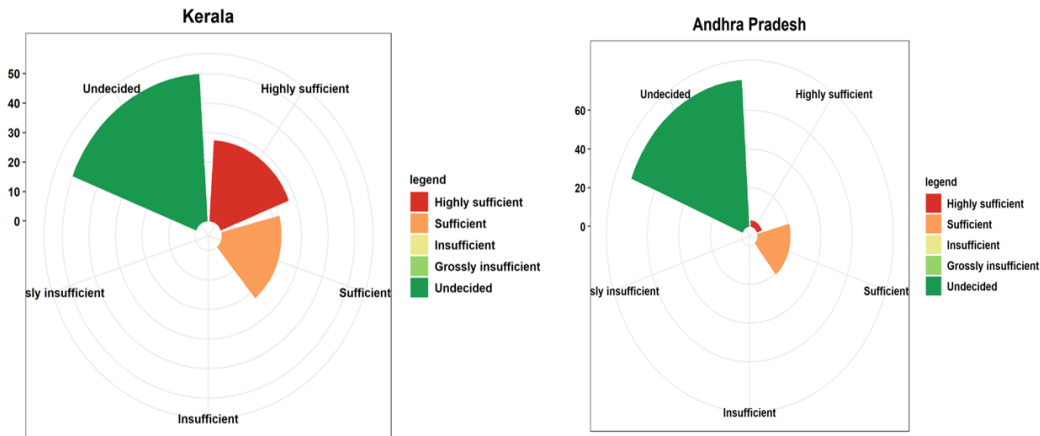
Fig.5. Regularity in functioning of PDS outlet



Sufficiency of quantity of food grains supplied to households through PDS

The fig.6. shows that in Kerala state, 27.5 per cent of the respondents felt highly sufficient, 22.5 per cent of the respondents felt sufficient, 50 per cent of the respondents were undecided and none of the respondents felt insufficient and grossly insufficient. In Andhra Pradesh state, 3.33 per cent of the respondents felt highly sufficient, 20.83 per cent of the respondents felt sufficient, 75.84 per cent of the respondents were undecided and none of the respondents felt insufficient and grossly insufficient about the quantity supplied to households through PDS.

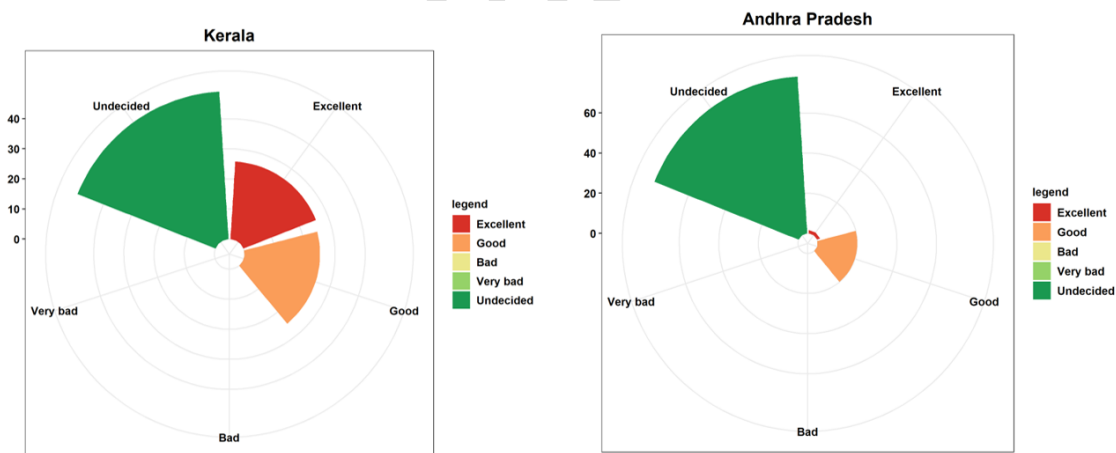
Fig.6. Sufficiency of quantity of food grains supplied to households through PDS



Perception of respondents about the quality of food grains supplied through PDS.

The fig.7. shows that in Kerala state, 25.83 per cent of the respondents felt excellent, 25 per cent of the respondents felt good, 49.17 per cent of the respondents were undecided and none of the respondents felt bad and very bad. In Andhra Pradesh state, 1.67 per cent of the respondents felt excellent, 20 per cent of the respondents felt good and 78.33 per cent of the respondents were undecided and none of the respondents felt bad and very bad about the quality of food grains supplied to households through PDS.

Fig.7.Perception of respondents about the quality of food grains supplied through PDS.

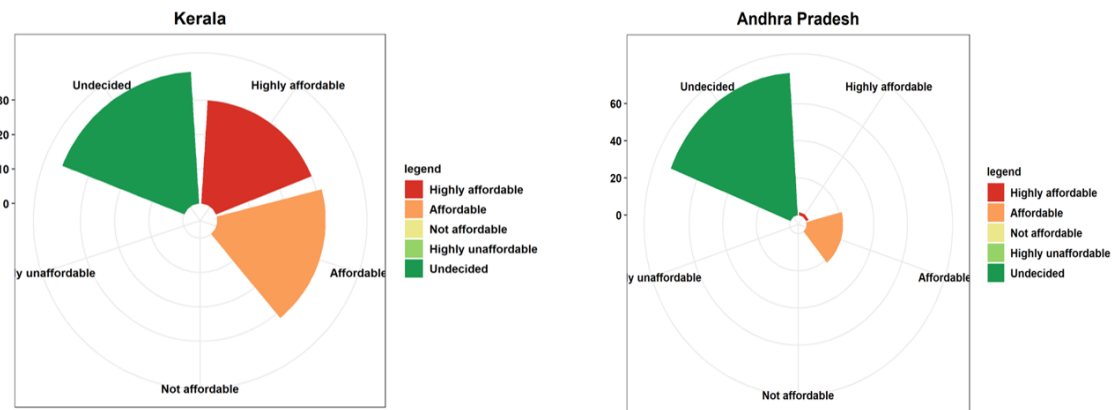


Price of food grains supplied

The fig.8. shows that in Kerala state, 30 per cent of the respondents felt highly affordable, 31.67 per cent of the respondents felt affordable, 38.33 per cent of the respondents were undecided and none of the respondents felt not affordable and highly unaffordable. In Andhra

Pradesh state, 1.67 per cent of the respondents felt highly affordable, 21.67 per cent of the respondents felt affordable, 76.66 per cent of the respondents were undecided none of the respondents felt not affordable and highly unaffordable about the price of food grains supplied to households through PDS. In Kerala, felt price is high for kerosene and in Andhra Pradesh, respondents felt price is high for dal.

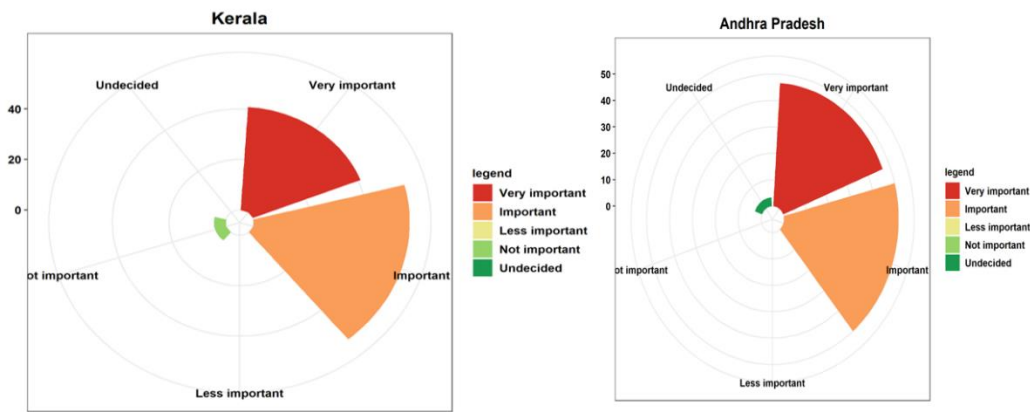
Fig.8.Price of food grains supplied



Importance of PDS for household food security

The fig.9. shows that in Kerala state, 40.83 per cent of the respondents felt very important, 55 per cent of the respondents felt important, 4.17 per cent of the respondents felt not important and none of the respondents felt less important and not important. In Andhra Pradesh state, 46.67 per cent of the respondents felt very important, 50 per cent of the respondents felt important, 3.33 per cent of the respondents felt undecided and none of the respondents felt not important about the importance of PDS for household food security.

Fig.9. Importance of PDS for household food security

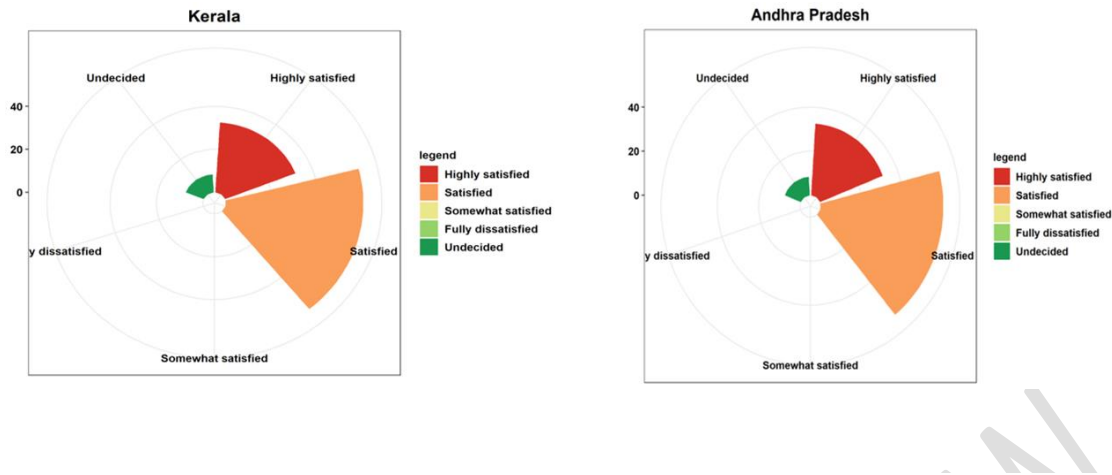


Similarly, in a study conducted in Arunachal Pradesh by Ramya and Ramjuk(2018) where the importance of PDS for household food security in Kurung Kumey and Papum Pare districts, 50.70 per cent of respondents felt very important, 48.70 per cent of respondents felt important and 0.70 per cent of respondents were undecided in KurungKumey district and 30.00 per cent of respondents felt very important, 61.3 per cent of respondents felt important, 6.70 per cent of respondents were undecided and 2 per cent of respondents felt less important in Papum Pare district.

Level of satisfaction about the billing system

It is evident from Fig.10 that in Kerala, 38.33 per cent of the respondents were highly satisfied with the electronic billing system, while 51.67 per cent of the respondents expressed their satisfaction and 10 per cent of the respondents were undecided. Notably, none of the respondents reported feeling somewhat satisfied and fully dissatisfied. Similarly, in Andhra Pradesh, 32.5 per cent of the respondents reported high satisfaction with the present billing system, 59.17 per cent expressed their satisfaction and 8.33 per cent were undecided. Here also, none of the respondents indicated somewhat satisfied and fully dissatisfied with the billing system.

Fig. 10 Level of satisfaction about the billing system



Similarly, a study conducted in Palakkad district by Suryakrishnan (2021) observed that 28 per cent of respondents were highly satisfied with the billing system in the PDS outlets, 36 per cent respondents were satisfied, 36 per cent of respondents were neutral and 8 per cent of respondents were dissatisfied.

Opinion of respondents regarding the use of the biometric billing system

The fig.11. shows that in Kerala state, 15.83 per cent of the respondents felt very excellent, 55 per cent of the respondents felt good, 29.17 per cent of the respondents were undecided and none of the respondents felt bad and very bad. In Andhra Pradesh state, 26.67 per cent of the respondents felt excellent, 57.5 per cent of the respondents felt good, 15.83 per cent of the respondents were undecided and none of the respondents felt bad and very bad about the use of a biometric billing system. After the biometrics system came outsiders of family are not allowed to take ration from FPS shops.

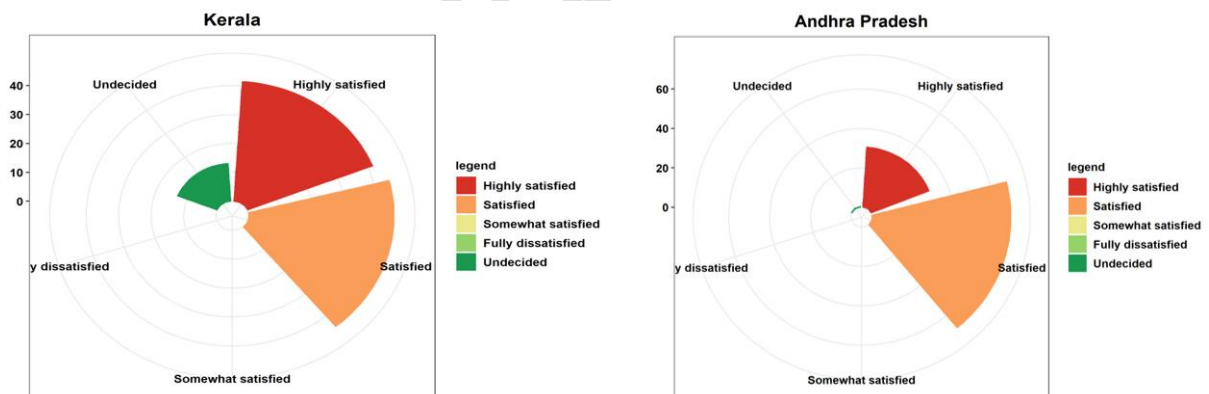
Fig.11.Opinion of respondents regarding the use of the biometric billing system



Overall satisfaction in E-POS system

The fig.12. shows that in Kerala state, 41.67 per cent of the respondents were highly satisfied, 45 per cent of the respondents were satisfied, 13.33 per cent of the respondents were undecided and none of the respondents felt somewhat satisfied and fully dissatisfied. In Andhra Pradesh state, 30.83 per cent of the respondents were highly satisfied, 68.34 per cent of the respondents were satisfied, 0.83 per cent of the respondents were undecided none of the respondents felt somewhat satisfied and fully dissatisfied about their overall satisfaction with the E-POS system.

Fig.12. Overall satisfaction in E-POS system



CONCLUSIONS

The survey conducted in Kerala and Andhra Pradesh provides valuable insights into the perceptions and satisfaction levels of respondents regarding the Public Distribution System (PDS). In Kerala the majority (83.34%) of respondents expressed either excellent or

good views about the quality of food grains from PDS, while in Andhra Pradesh, 63.33 per cent of respondents expressed positive opinions. Notably, the majority of respondents in both states did not perceive the quality as very bad. Furthermore, respondents in both states Kerala and Andhra Pradesh generally found that PDS dealers to be helpful, with a higher percentage in Kerala (99.17%) compared to Andhra Pradesh (98.33%). Moreover, regarding the functioning of local PDS outlets, respondents from Kerala exhibited higher satisfaction levels (98.33%) compared to Andhra Pradesh (97.5%). A notable portion of respondents in both states expressed uncertainty about the accessibility of PDS system. Moreover, a considerable percentage in both Kerala and Andhra Pradesh were undecided about the regularity of PDS functioning. Respondents in Kerala (48.33%) and Andhra Pradesh (24.50%) exhibited uncertainty regarding the sufficiency of quantities supplied through PDS. Moreover, uncertainty prevailed in both states regarding the affordability of food grains, with Kerala indicating higher levels of uncertainty. Respondents in Kerala perceived that prices were high for kerosene, while in Andhra Pradesh, prices were perceived as high for dal. Despite these concerns, the majority of respondents in both states considered PDS highly important for household food security. Respondents in both states were generally satisfied with the billing system, with Kerala showing slightly higher satisfaction. Satisfaction with the E-POS system was high in both states, with Kerala having a higher satisfaction rate. Positive perceptions regarding the use of the biometric billing system were prevalent in both states, with higher satisfaction in Kerala. The restriction on outsiders taking rations after the biometric system suggests increased security measures. Overall, satisfaction levels were high in both states, with Kerala having slightly higher satisfaction rates. In conclusion, while there are areas of uncertainty and improvement suggested by respondents, the overall sentiment indicates a positive perception of the Public Distribution System in both Kerala and Andhra Pradesh. The high satisfaction levels with various aspects of the PDS suggest that it plays a crucial role in ensuring food security and meets the expectations of the majority of respondents in both states.

SUGGESTIONS

The ration card holders in Kerala requested to change their APL to BPL status on ration cards which is due to their lower income or financial status. The APL card holders in Kerala were receiving only one commodity *i.e.* rice, an increase in the variety of commodities provided through the ration system helps in meeting the dietary requirements and improve the overall

food security. In addition to this, the respondents from Andhra Pradesh suggested to increase the number of commodities available to each family. The suggestions made by the respondents from both the states were to increase the quantity and improve the quality of food grains along with creating an awareness regarding the ratio allowed to the family members and making the product available by time.

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