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# A Study on Correlates of Profile Characteristics and Adoption Behaviour of Rythu Bharosa Kendra (RBK) Beneficiaries in Anantapur District, Andhra Pradesh

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***Authors' contributions***

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## ABSTRACT

Rythu Bharosa Kendras (RBK) or Farmers Assurance Centres are the one-stop-shop for the farmers' welfare introduced by the Andhra Pradesh government at every panchayat to cater for their needs at the grass-root level. These centres provide a range of services like e-Crop booking, Crop health monitoring, CMAPP, Polambadi (Farmers Field School) programmes, Product procurement, financial assistance, field assistance etc. The present study highlights the correlates of adoption behavior of RBK beneficiaries in the Ananthapur district of Andhra Pradesh. Simple random sampling method was used and a sample size of 90 was selected from 18 villages under 6 RBKs of two blocks. Descriptive research design was used for the purpose of the study. The findings specify that the variables viz., age, education, land holding, social participation, extension agency contact, mass media exposure, extension participation, economic motivation had a positive and significant relationship with the level of adoption. Occupation, family size, farming experience and annual income had non-significant relationship with adoption of technologies disseminated by RBKs.

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## 1. INTRODUCTION

Agriculture is the main source of livelihood for most of the population in India. Pre and post green revolution extension systems in India had played a commendable role in the dissemination of transfer of technologies. On the contrary, farmers face many problems in the process of input procurement, product selling, market prices, etc. It is impossible for the extension worker to meet each farmer personally. To control these problems the Government of Andhra Pradesh launched RYTHU BHAROSA KENDRA –A one-stop shop for all the farmers' needs at every panchayat with a trained staff of various disciplines of agriculture and allied sectors. Earlier the farmers had to visit Mandal level offices of agriculture, horticulture, veterinary, fisheries to address any work but with the introduction of RBK at the panchayat level, the staff including VAA-Village Agriculture Assistant, VHA-Village Horticulture Assistant, VSA-Village Sericulture Assistant, VFA-Village Fisheries Assistant (only in the areas where intensive fish culture is present) are easily accessible to the farmers at village level. Services like agri-input shop, farmers knowledge centre, custom hiring centres, PM-kisan, YSR Rythu Bharosa, E-Crop Booking, crop health monitoring, Commodity Market Price and Procurement (CMAPP), YSR APP (Yield Sustainability Reforms in Agriculture Production and Productivity), Polam badi (Farmer Field School), Rythu bharosa magazines, RBK level advisory board, You tube channel-RBK, method demonstrations, quality inputs distribution, etc. are availed under this farmer' welfare scheme in the aegis of Andhra Pradesh Government.

In Andhra Pradesh, the gross area sown in the Rabi (2020-21) was 26.47 lakh hectares while it was 24.86 lakh hectares in the Rabi (2019-20) showing an increase of 6.48%. Paddy, Maize, Black gram, Bengal gram & Red gram crops are the main food grain crops, which together accounted 91.75% of the total area under food grain crops during the year 2020-21. The irrigation intensity i.e. the ratio of gross irrigated area to net irrigated area was 1.36 in 2020-21 as against 1.32 in 2019-20 [1]. While the total cultivated area in Anantapur district with 769566 operational holdings was 1252312.360 ha (1.25Mha) [2]. Anantapur is the only arid district of Andhra Pradesh with about 536 mm annual rainfall. This district lies in the rain shadow area of the state and suffers from frequent droughts. It has only 11% of area under irrigation with groundnut occupying maximum area under rain-fed condition accounting for over 75% of the cropped area [3].

There are limited testing facilities for agricultural inputs like seeds, fertilizers and pesticides in the state. All of these lead to a supply of low-quality inputs to farmers causing losses to farmers. The availability of extension functionaries to farmers is very less with the extension worker to farmer ratio being 1:1162 [4]. Before the introduction of these RBKs/ Farmers Assurance Centres, the seed distribution was done mainly at the Mandal level for the Kharif and Rabi seasons and the farmers used to wait in long queues and spend more money in the transportation of seeds. Crop insurance and crop bookings were done in Mandal headquarters. Low quality inputs were procured and less access to technical advisories were experienced by the farmers. But with RBKs at village level has given access to facilities which were earlier not possible for these farmers [5].

Keeping in view of the above facts, to understand the factors affecting the viability of the RBKs in the study area, the present study was undertaken with the specific objectives:

i. To study the profile characteristics of the RBK beneficiary farmers
ii. To study the relationship of profile characteristics of beneficiaries with their adoption of technologies disseminated by RBKs.

## 2. RESEARCH METHODOLOGY

The present study was conducted in the Anantapur district of Andhra Pradesh in the year 2021. Out of 63 blocks, two blocks were selected purposively based on the presence of the highest number of RBKs. Six RBKs were selected randomly under two blocks. Further, from each RBK three villages were selected randomly and from each village, five farmers who were the beneficiaries of RBK were selected for the purpose of the study. Therefore, a total of 90 respondents were selected by using simple random sampling method. Primary data was collected with the help of a well-structured and pre-tested interview schedule. The required secondary data was collected from various

Government offices like panchayat office, Mandal office, village secretariat, journals, magazines, publications etc. Descriptive statistics like Frequency, Percentage, Mean, Standard deviation and Mean scale value were used for categorizing the respondents. For analyzing the relationship between the variables, Karl Pearson's correlation coefficient test was applied.

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{n}}{\sqrt{\left[\sum X^2 - \frac{(\sum X)^2}{N}\right]\left[\sum Y^2 - \frac{(\sum Y)^2}{N}\right]}}$$

Where,

r =correlation coefficient
n =number of respondents
ΣXY = sum of the products of paired scores
ΣX = sum of x scores
ΣY = sum of y scores
$\Sigma X^2$ = sum of square of x scores
$\Sigma Y^2$ = sum of square of y scores

## 3. RESULTS AND DISCUSSION

### 3.1 Profile of RBK Beneficiaries

As revealed in Table 1, majority of the respondents (62.2%) belonged to the middle age group (32 to 54 years). The individuals in this age group usually have families to take care of and other responsibilities and had experience in farming similar to the findings of Mukherjee [6], Avinash [7] and Darshan [8]. It was found that higher percentage of the respondents (25.5%) had attained secondary level of education. The provison for higher education might not be available in the village or nearby areas. Results were in-line with the findings of Nagle [9], Sreenivasulu [10], Jain [11] and Baliram [12]. Agriculture was the main occupation of the maximum respondents (34.4%). This might be due to the reason that respondents were living in villages with very few occupation alternatives. These findings were supported by Ahalya [13], Nagle [9]. Majority of the respondents (42.2%) had small size of land holding (1 to 2.5 ha). The results resemble the findings of Jahan [14], Kumar [15], and Rao [16]. Also, majority of the respondents (67.7%) had medium sized families (4 to 6 members). This might be due to the fact that most of the rural families are joint in nature and resists to accept the concept of nuclear families. They do not consider children as burden or responsibilities instead as a source of assistance in labor intensive farming or other household work. These findings were supported by Nagle [9], Jain [11], and Steffi [17].The annual income of most of the respondents (71.1%) was found medium which is supported by the findings of Verma [18], and Jain [11]. A large number of respondents (64.4%) had medium level of farming experience (10 to 20 years) supported by Ahalya [13] and Darshan [8]. The social participata ion of majority of the respondents (62.2%) was found to be at medium level category. This might be due to the reason that most of the respondents realized the importance of social participation and its benefits with age similar to the results of Verma [18], Jain [11], and Rao [16].

Furthermore, it is observed in Table 1, that the majority of the respondents (61.1%) had medium level of economic motivation. This might be due to low education levels, low income, Lack of diversity in occupation and low exposure of the respondents. These findings were supported by Jahan [18], Babu [19] and Steffi [17].The communication behavior of majority of the respondents (75.5%) was found at medium level. It is generally observed that individuals with higher social participation have higher opportunities for communication. Most of the respondents (63.3%) had medium level of extension agency contact. This might be due to reason that the respondents believed in the suggestions of extension functionaries and followed their advice. These findings are in line with the work of Baliram [12], Avinash [7] and Babu [19]. Mass media exposure of half of the respondents (50%) were found to be in medium level category similar to Madhavilatha [20] and Baliram [12]. It was observed that a large number of respondents (66.6%) had medium level of extension participation. This might be because most of the respondents had moderate interest and does not give more importance to village extension activities similar to the results of Chitra et al., [21], and Prasad et.al [22].

### 3.2 Extent of Adoption of RBK Technologies by the Beneficiary Farmers

Fig. 1 shows that majority of the respondents (81.10%) had a medium level of adoption i.e., moderate adoption rate of services or technologies of RBKs followed by high adoption (12.20%) and low adoption (6.70%) levels. The farmers in the study area were found to have a good response towards the services of RBKs. These specifications were similar to Kotele et al., [23] and Darshan [8].

**Table1. Distribution of respondents according to their selected characteristics (N=90)**

| Sl. N. | Profile Characteristics | Categories | Frequency | Percentage (%) | Mean | S.D |
|---|---|---|---|---|---|---|
| 1. | **Age** | Young age(up to 34 ) | 17 | 18.9 | 45.2 | 10.5 |
| | | Middle age(35to 55) | 56 | 62.2 | | |
| | | Old age(more than 55) | 17 | 18.9 | | |
| 2. | **Education** | Illiterate | 6 | 6.6 | | |
| | | Primary school | 16 | 17.8 | | |
| | | Secondary school | 33 | 36.7 | | |
| | | Intermediate | 19 | 21.1 | | |
| | | Graduate & above | 16 | 17.8 | | |
| 3. | **Occupation** | Animal husbandry | 9 | 10 | | |
| | | Agriculture | 31 | 34.4 | | |
| | | Agriculture + AH | 30 | 33.3 | | |
| | | Agriculture + AH + Poultry | 13 | 14.5 | | |
| | | Agriculture + Sericulture | 7 | 7.8 | | |
| 4. | **Family size** | Small (Up to 3) | 12 | 13.3 | 4.4 | 1.0 |
| | | Medium (4 to 5) | 61 | 67.8 | | |
| | | Large (More than 5 ) | 17 | 18.9 | | |
| 5. | **Land holding** | Marginal (Up to 0.4 ha) | 35 | 38.9 | | |
| | | Small (0.5 to 1.0 ha) | 38 | 42.2 | | |
| | | Medium (1.0 to 2.6ha) | 14 | 15.6 | | |
| | | Large (Above 2.6) | 3 | 3.3 | | |
| 6. | **Annual Income** | Low (Up to Rs. 90000) | 64 | 71.1 | | |
| | | Medium (Rs. 90000 to Rs. 200000) | 24 | 26.7 | | |
| | | High (More than Rs.200000) | 2 | 2.2 | | |
| 7. | **Farming experience** | Low (Up to 8) | 10 | 11.1 | 18.4 | 9.8 |
| | | Medium (9 to 28) | 58 | 64.5 | | |
| | | High ( more than 28) | 22 | 24.4 | | |
| 8. | **Social participation** | Low ( Up to 5) | 8 | 8.9 | 8.2 | 3.3 |
| | | Medium (6 to 11) | 56 | 62.2 | | |
| | | High (above 11) | 26 | 28.9 | | |
| 9. | **Communication Behavior** | Low (Up to 30) | 9 | 10 | 45.1 | 14.6 |
| | | Medium (31 to 59) | 68 | 75.6 | | |
| | | High (More than 59) | 13 | 14.4 | | |
| | **Extension agency contact** | Low ( Up to 14) | 13 | 14.5 | 17.9 | 3.3 |
| | | Medium (15 to 21) | 57 | 63.3 | | |
| | | High (above 21) | 20 | 22.2 | | |
| | **Mass media exposure** | Low ( Up to 8) | 13 | 14.4 | 10.7 | 2.3 |
| | | Medium ( 9 to 13) | 45 | 50 | | |
| | | High (above 13) | 32 | 35.6 | | |
| | **Extension participation** | Low ( Up to 7) | 14 | 15.5 | 16.5 | 9.1 |
| | | Medium (8 to 25) | 60 | 66.7 | | |
| | | High (above 25) | 16 | 17.8 | | |
| 10. | **Economic Motivation** | Low ( Up to 7) | 20 | 22.2 | 13.5 | 6.3 |
| | | Medium (8 to 19) | 55 | 61.1 | | |
| | | High ( above 19) | 15 | 16.7 | | |

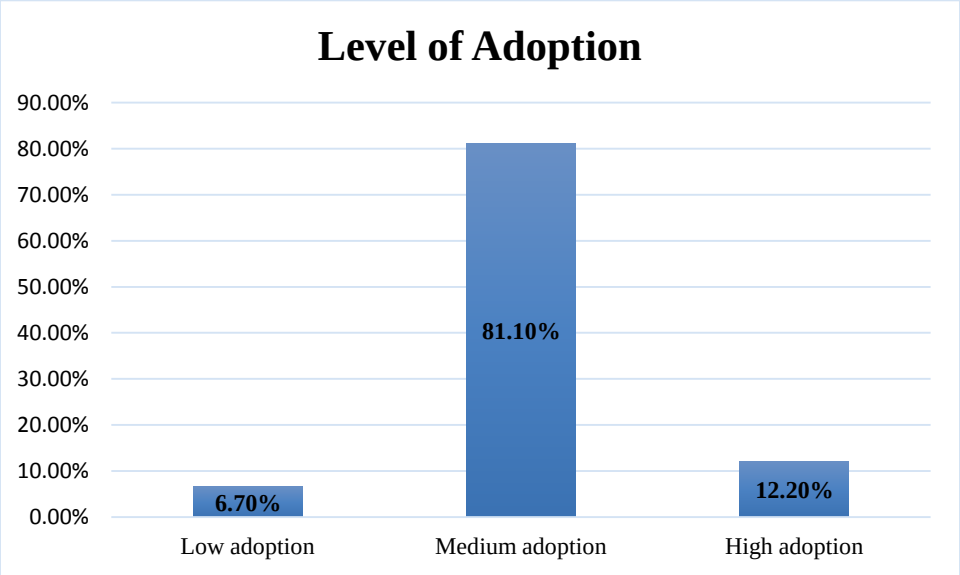


**Fig. 1. Distribution of respondents according to their level of adoption of technologies disseminated by RBKs**

**Table 2. Correlation coefficient of profile of RBK beneficiaries with their level of adoption**

| Sl. No. | Selected variables | Correlation coefficient 'r' value |
|---|---|---|
| 1. | Age | 0.240* |
| 2. | Education | 0.372** |
| 3. | Main Occupation | -0.037NS |
| 4. | Family size | 0.206NS |
| 5. | Land holding | 0.238* |
| 6. | Annual income | 0.186NS |
| 7. | Farming experience | 0.380** |
| 8. | Social participation | 0.276** |
| 9. | Communication behavior | |
| | (a)Extension agency contact | 0.241* |
| | (b)Mass media exposure | 0.296* |
| | (c)Extension participation | 0.260* |
| 10. | Economic motivation | 0.282** |

** = significant at the 0.05 level; ** = significant at the 0.01 level; NS= non-significant*

### 3.3 Correlation of Profile Characteristics of Beneficiary Farmers with the Adoption of Technologies Disseminated by RBKs

A perusal of Table 2 reveals the Correlation between the adoption of technologies disseminated by RBKs and the selected variables. The calculated correlation coefficient "r" value revealed the relationship between personal, socio-economic and communicational characteristics of farmers with their adoption of technologies of RBKs. It was observed that the characteristics namely age, land holding, extension agency contact, mass media exposure and extension participation were positively and significantly correlated with adoption level at 0.05 per cent level of significance and the variables viz., education, social participation and economic motivation were positively and significantly correlated with adoption level at 0.01 per cent level of significance. While the variable main occupation had a negative and non-significant relationship and family size, faming experience and annual income had a positive non-significant relationship with the adoption level.

## 4. CONCLUSION

Anantapur district of Andhra Pradesh has the largest geographical area in the state with good opportunities to enhance the socio-economic and

farming conditions of the farmers. Through the welfare scheme of Rythu Bharosa Kendras, a large number of farmers have benefitted by adopting improved technologies and utilizing RBK services. The majority of the farmers had a medium level of adoption of the technologies disseminated by the RBKs which reveals that farmers had a good response to the services of RBK. Some of the profile characters were found to be significantly correlated with their adoption levels. Moreover, a large number of farmers had a medium level of knowledge, medium level of adoption, medium level of mass media exposure and medium extension agency contact. As a result, the production in the study area is not up to the mark. Thus, proper identification of problems realized by the farmers in the area is the need of the hour. Government should make provisions to create awareness regarding the various services of improved disseminated technologies to achieve the maximum utilization of this farmer's welfare scheme of Rythu Bharosa Kendras in the Anantapur district of Andhra Pradesh.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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