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Rythu Bharosa Kendram: Rejuvenating the Indian Rural Economy

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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 Kendram (RBK) serves as one stop shop for all of the needs of farmers at the Panchayat level. They offer services like e-crop booking for crop insurance, an agricultural input store, farmer knowledge centers, a technical advisory team, YSR Rythu Bharosa, Polambadi

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(Farmer Field School), CCRC cards, D-Krishi Seed distribution, and others. The objective is to study the extent of adoption of technologies and services of RBKs by the farmers. The present study is conducted in Prakasam district of Andhra Pradesh state as it is has significant area under crop cultivation. Multi stage simple random sampling technique has been adopted to select the sample farmers for the study. The data was collected from 75 respondents by personal interview method and analyzed using statistical analytical techniques such as Mean scale value and adoption Index. The study revealed that the majority of respondents 58.67% adopted technology at a medium level followed by low adoption 26.67% and high adoption 14.67% levels. The study concludes that RBKs are vital in serving farmers, with moderate adoption levels influenced by farmers' age and education.

Keywords: Rythu bharosa kendram; extent of adoption; technology; services.

1. INTRODUCTION

Grama Sachivalyam, often referred to as Village secretariats, are established in the Indian state of Andhra Pradesh to decentralize the administration by consolidating services and welfare offerings from various government agencies. The first state in India to introduce Village Secretariats was Andhra Pradesh. The program was inspired by Mahatma Gandhi's Grama Swarajya idea, which encourages villages to become self-sufficient, autonomous entities. Rythu Bharosa Kendram provides agriculture and allied sector services to farmers [1].

The knowledge and infrastructure gaps, particularly in rural regions, are the major problems affecting Indian agriculture today. Infrastructure issues with regard to markets, transportation, and irrigation all significantly increase the cost of farming. There are several programs designed to advance agriculture. In terms of boosting productivity, cutting costs, or improving price realization on the ground, we lack efficient delivery systems that can convert into efficient facilitation [2]. There comes Rythu Bharosa Kendras a pioneering approach from seeds to sales, single window service centres set up by the state government of Andhra Pradesh [3]. These multi-functional kiosks with digital aadhar authentication equipment act as a one-stop solution for all requirements and grievances of farmers in the state [4]. These centres sell pre-tested quality seeds, certified fertilizers and livestock feed. They also provide farm equipment and enable farmers to sell their produce at the prevailing minimum support price (MSP) via supporting systems of e-cropping, geo-tagging and CM App. They provide services like soil testing and consultancy regarding what crops to sow and quality and type of fertilizer to be used. This has helped farmers change their cropping patterns and increase profits. RBKs are responsible for the elimination of unproductive seeds and uncertified and dangerous fertilizers from the market. This has minimized crop damage and failures significantly. Manned by agriculture and horticulture officials, Rythu Bharosa Kendras are used to promote interactions between farmers, agriculture extension officers and agriculture scientists at the grassroot levels. They are used for the promotion of new farm equipment and provide training for farmers [5,6]. The RBKs were recently nominated for UN Food and Agriculture Organization's Champion Awards (CCA), which recognizes contributions of governments in boosting food security [7].

1.1 Research Gap

Upon reviewing the literature, it was found that similar delivery mechanisms for welfare and development schemes at the village level have been implemented with the support of Panchayati Raj Institutions. However, the Rythu bharosa kendram is a novel concept and mechanism in the context of the Indian Panchayati Raj system working with department of agriculture. Consequently, there were a lack of studies a lack of studies focused on the Rythu bharosa kendram and its role in delivering welfare schemes to the people of Andhra Pradesh.

1.2 Objective of the Study

To assess the level of adoption of technologies and services provided by RBKs among the respondents.

2. REVIEW OF LITERATAURE

Anonymous 2022, emphasized Rythu Bharosa Kendras (RBKs) pioneering role as integrated service centers for farmers, offering a range of

essential services from seed sales to crop insurance at the village level. Research highlights their effectiveness in providing quality inputs, technical advice, and facilitating market linkages, positioning RBKs as a model for agricultural service delivery in India.

Anuhya 2022, highlighted Rythu Bharosa Kendras (RBKs) role in providing accessible agricultural services, such as seed distribution, price support, and technical advice at the panchayat level. Despite some infrastructural challenges, RBKs have been recognized internationally for their contributions to farmers' welfare particularly in Andhra Pradesh.

Anuhya *et al,* 2022 highlighted the role of Rythu Bharosa Kendras (RBKs) in streamlining agricultural services, acting as one-stop centers for farmers' needs at the panchayat level. Research emphasizes their contribution to improving access to inputs, technical guidance, and financial support, though adoption levels vary based on farmers' socio-economic factors.

Reddy 2022, studied the Village Secretariat/Ward System (Grama/Ward Sachivalayam) as an innovative governance mechanism aimed at improving the delivery of welfare schemes like Navarathanalu in Andhra Pradesh. The research highlights its role in decentralizing administration and ensuring timely access to benefits for marginalized communities, particularly in rural areas.

3. METHODOLOGY

The present study was conducted in Prakasam district of Andhra Pradesh state as it is one of the top 5 districts having significant area under agricultural use. Five blocks with highest number of RBKs were selected, from each block three villages were selected randomly and five farmers from each village were selected randomly. Multi stage simple random sampling technique has been adopted to select the sample farmers for the study. The data was collected from 75 respondents by personal interview method and analysis has done by using statistical analytical techniques such as Mean scale value, Adoption Index.

For measuring the variable, an index was developed and the frequency was studied on three-point continuum i.e., fully adopted, partially adopted and not adopted and the score were given as 3, 2, 1 respectively and were categorized as high adoption, medium and low adoption using mean and standard deviation. For measuring the distribution of respondents according to level of adoption of RBK services and technologies mean scale value was used [8].

$$X = \Sigma^{n}i=1 = Xi \div N$$

Where;
Xi = Mean
ΣXi = Sum of all pairs in a distribution
N = Total number of respondents

$$\sigma = \sqrt{\frac{1}{n}\left[\frac{\sum xi^2 - (\sum xi)2}{n}\right]}$$

Where,
σ = Standard deviation
ΣXi^2 = The summation of squares of individual items
$(\Sigma Xi)^2$ = The square of individual items
n = Total number of observations in the sample

$$\text{Mean scale value} = \frac{P_1 \times 3 + P_2 \times 2 + P_3 \times 1}{N}$$

Where,
P_1 = Frequency of respondents of 1st preference
P_2 = Frequency of respondents of 2nd preference
P_3 = Frequency of respondents of 3rd preference
N = Total number of respondents

3.1 Objective of the Study

To study the extent of adoption of technologies and services of RBKs by farmers.

4. RESULTS AND DISCUSSION

The extent of RBK technology adoption or use of RBK services was evaluated by using Mean scale value, and the results (Table 1) showed that all respondents accepted E crop booking, INAPH Tagging which came in first place with a mean scale value of 3.0, YSR Rythu Bharosa came in second place with mean scale value of 2.97, Commodity Market Price and Product Procurement (CMAPP) came in third place with a mean scale value of 2.67, followed by Product procurement at MSP with mean scale value of 2.63 at fourth place after this Crop health monitoring, D-Krishi at fifth place with mean scale value of 2.53.

Quality Inputs Distribution came in sixth place with a mean scale value of 2.47 followed by Crop

cutting experiments with a mean scale value of 2.47 at seventh place after this RBK level advisory board at eighth place with a mean scale value of 2.43. Polambadi (FFS) was at nineth place with mean scale value of 2.39, Advisory services provided by specialists in every field i.e., VAA,VHA,VSA and AHA at tenth place with mean scale value of 2.37, RBK call service-toll free number:155251 at eleventh place with mean scale value of 2.25, Method demonstrations at twelfth place with mean scale value of 2.17, RBK channel subscription at thirteenth place with mean scale value of 2.12, Rythu Bharosa Magazines at fourteenth place with mean scale value of 1.99, Kiosk for fertilizer booking Magazines at fifteenth place with mean scale value of 1.93, Horticulture schemes- MIDH at sixteenth place with mean scale value of 1.93, Soil testing facilities at seventeenth place with mean scale value of 1.61, Natural farming at eighteenth place with mean scale value of 1.53, CCRC (Crop Cultivator Right Card) at nineteenth place with mean scale value of 1.51, Subsidy on micro irrigation equipment (PMKSY) at twentieth place with mean scale value of 1.32, at last Sericulture schemes at twenty first place with mean scale value of 1.16.

Level of Adoption of technology or services was categorized by calculating Mean and Standard deviation of fully adopted farmers. Table 2's findings show that 58.67% of respondents had medium levels of adoption, followed by 26.67% with low adoption levels and 14.67% with high levels. This may be because farmers lack of awareness and initiative, Lack of infrastructural facilities and funds. These findings were supportd by Anuhya et.al. [8], Kumar [9], Darshan [10] and Sivanarayana et.al. [11].

Table 1. Distribution of respondents according to level of adoption of RBK technologies or utilization of services

S.No	Services Provided	Fully adopted	Partially adopted	Not adopted	Mean value	Scale Rank
1	YSR Rythu Bharosa	74(98.67)	0	1(1.33)	2.97	II
2	E-Crop Booking	75(100)	0	0	3.00	I
3	Crop health monitoring	45(60)	25(33.33)	5(6.67)	2.53	V
4	D-Krishi (Seed distribution)	47(62.67)	21(28)	7(9.33)	2.53	V
5	Commodity Market Price and Product Procurement (CMAPP)	58(77.33)	9(12)	8(10.67)	2.67	III
6	Quality Inputs Distribution	40(53.33)	30(40)	5(6.67)	2.47	VI
7	CCRC (Crop Cultivator Right Card)	19(25.33)	0	56(74.67)	1.51	XIX
8	Polambadi(FFS)	39(52)	26(34.67)	10(13.33)	2.39	IX
9	Crop cutting experiments	54(72)	0	21(28)	2.44	VII
10	RythuBharosa Magazines (are you a subscriber)?	24(32)	26(34.67)	25(33.33)	1.99	XIV
11	Method demonstrations	33(44)	22(29.33)	20(26.67)	2.17	XII
12	Natural farming	20(26.67)	0	55(73.33)	1.53	XVIII
13	RBK level advisory board	44(58.67)	19(25.33)	12(16)	2.43	VIII
14	RBK channel subscription	42(56)	0	33(44)	2.12	XIII
15	RBK call service-toll free number:155251	41(54.67)	12(16)	22(29.33)	2.25	XI
16	Soil testing facilities	8(10.67)	30(40)	37(49.33)	1.61	XVII
17	Kiosk (Do you utilize kiosks for fertilizer booking?)	8(10.67)	54(72)	13(17.33)	1.93	XV
18	Advisory services provided by specialists in every field i.e., VAA, VHA, AHA and VSA (Do you follow recommendations given?)	41(54.67)	21(28)	13(17.33)	2.37	X
19	Horticulture schemes- MIDH (are you a beneficiary?)	25(33.33)	0	50(66.67)	1.67	XVI
20	Subsidy on micro irrigation equipment (PMKSY) (Are you a beneficiary?)	12(16)	0	63(84)	1.32	XX
21	Product procurement at MSP	61(81.33)	0	14(18.67)	2.63	IV
22	Sericulture schemes (Are you a beneficiary?)	6(8)	0	69(92)	1.16	XXI
23	INAPH Tagging	75(100)	0	0	3.00	I

Note: Figures in parenthesis indicate percentage of adopted population

Table 2. Distribution of respondents according to level of adoption or utilization of services of RBK's

S.No	Level of Adoption	Frequency	Percentage
1	Low (upto 9)	20	26.67
2	Medium (9-14)	44	58.67
3	High (more than 14)	11	14.67
	Total	**75**	**100.00**

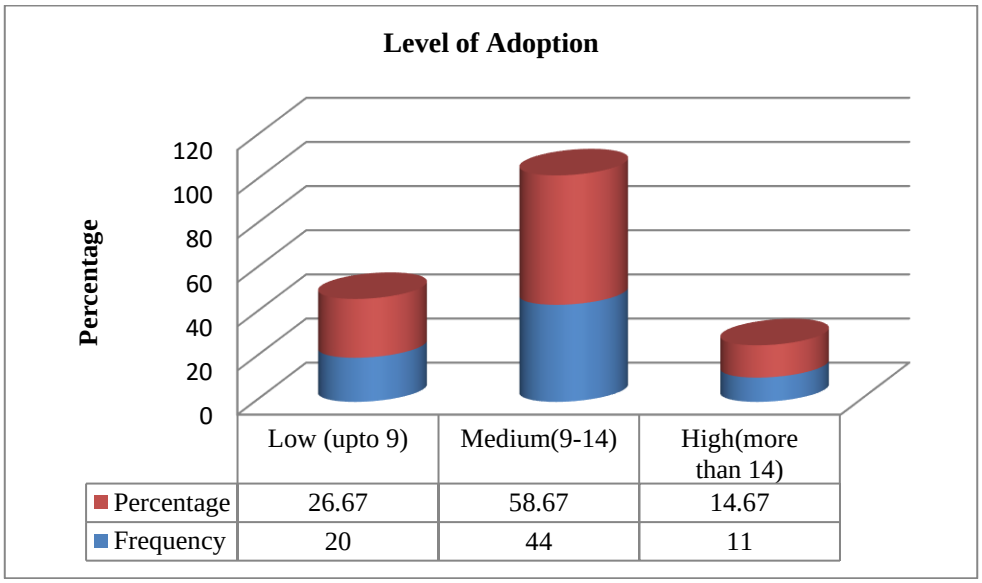

Fig. 1. Bar graph showing level of adoption

5. CONCLUSION

We may infer from the current study on RBKs that they offer a wide range of services and act as one-stop shops for all the needs of farmers at the panchayat level. The results of the study indicate that e-Crop booking and INAPH Tagging were advantageous to every farmer. YSR Rythu Bharosa was utilized by majority of farmers as it provides financial support during farming season for purchase of inputs. CMAPP was utilized by most of farmers as it displays data relating to cost, Procurement and marketing facilities of the farmers for their produce on daily basis for all crops. CCRC (Crop Cultivator Right Card) was utilized by few farmers as it needs land owners agreement to get the card. Subsidy on micro irrigation equipment, Sericulture schemes were adopted by few farmers as farming in this area is mostly dependent on rainfall and major crops are Bengal gram and Tobacco. The comprehensive picture of adoption pattern of RBKs shows that most of the farmers are having medium level of adoption followed by low and small extent of farmers have high level of adoption, the main reason is that majority of farmers are middle aged and have only secondary level of education.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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