A Study on perception and utilization of services of RythuBharosa Kendra's (RBKs) by the farmers in Chittoor District of Andhra Pradesh, India

Abstract

The present study was conducted during the year 2021-22 by following Ex-Post-Facto research design with objective of studying the perception and utilization of services of RBKs among the farmers of western blocks of Chittoor district, India. The foremost constraint expressed by farmers were dearth of timely sourcing of quality inputs and services it might be due to meager performance of RBK in the study area/quite few number of farmers aware of the activities carried out by the RBK.Very few (<5%) of the farmers have perception and utilization towards organic certification, availing organic inputs like neem cake, vermi compost, neem oil, natural farming products, IPM kits, biofertilizers and biofungicides the plausible reason might be that implementation of Farmer Field School programme for creating awareness about the scientific methods of agricultural production and to achieve higher agricultural income at lower cost on cluster basis by RBKs and provision of IPM kits and organic inputs to those cluster farmers might have resulted in lesser perception and utilization.

Keywords: biofertilizers, biofungicides, Agriculture, RythuBharosa Kendra's

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INTRODUCTION

India, Agriculture, and villages (Rural) are inseparable from each other. The country stands second in total population and first in the rural population. As per population census (2011), 68 per cent of the total population is living in a rural area. In Andhra Pradesh (AP), 68.63 per cent of the total population is living in a rural area. In 2019-20 the share of agriculture and allied sectors to Gross Value Added is about 19.7 per cent for India 37.27 per cent for Andhra Pradesh which is double when compared to the share of India. Realizing the importance of Agriculture, the Indian Government spends Rs.1,34,400 crore through the Department of Agriculture, Cooperation, and Farmers Welfare for various Centrally Sponsored Schemes as well as state government schemes which include crop insurance, market intervention, income support, interest subsidy, agriculture mechanization, and custom hiring, etc. For better synergy and convergence Agri Input Shop & Knowledge Center integrated and named as RythuBharosa Kendra's (RBKs)/Farmer Assurance Centersin 2019-20. RBKs is One Stop Shop for supply of Government Certified Agri Inputs (Seeds, Fertilizers & Pesticides), Animal Husbandry & Fisheries Inputs to the farmers and has an attached workshop / Knowledge Center for giving scientific Agri Advisories to the farmers. It is integrated with call center. Likewise 10,778 RBKs has been established across state in every village panchayat. For this scheme budget allocated was Rs.8750 crore, which is 41.34 per cent of total state agriculture budget allocation in 2019. RBK has technically qualified staff with technical education of B.Sc. (Ag.), Diploma in Agriculture, Diploma in Horticulture and B.Sc. (BZC) for Village Agriculture Assistants (VAA)/Village Horticulture Assistants (VHA) with graduate degree/diploma in Agriculture/Horticulture and are responsible for looking after the functioning of RBKs located at the village secretariats and maintain it with relevant information and records.

Raghu Prasad et al (2012) analysed the RaithaSamparkaKendras in Karnataka state and based on primary data, 122 farmers were selected for field survey. The study identified that information delivery mechanisms

and its infrastructure in the RSKs are very weak and there is minimum information dissemination on any aspects of agriculture and allied activities. Patil et al (2019) in a study on RaithuSamparkaKendras (RSKs) observed that opinion that the RSK officials are not able to provide information related to important allied areas such as horticulture, animal husbandry and so on. The study brings in the loophole in the setup of the RSKs and the inefficiency of the institutional appointee.

The RBK scheme will act as a one-stop-shop to address all the needs of farmers across the state. From this scheme, farmers will receive assured income of Rs.13, 500/year based on his productive activity irrespective of his land ownership. RBKs would assist the farmers in every step from the purchase of seed to sale of their final product (Reddy, D.A 2020). In each village, RBKs will sell pre-tested quality inputs like seeds, fertilizers, and pesticides, apart from acting as soil testing centers, and being knowledge and training centers for farmers. Such a critically designed scheme of the government needs concurrent evaluation for better implementation through mid-course correction for the effective execution at field level.

Materials and Methods

The present study was conducted during the year 2021-22 by following Ex-Post-Facto research design with objective of studying the perception and utilization of services of RBKs among the farmers of western blocks of Chittoor district. The investigation was carried out in Chittoor district of Andhra Pradesh was purposively selected as it his having highest number of RBKs in Southern zone and Scarce Rainfall zones of Andhra Pradesh. Chittoor district consists of 66 blocks. Among the 66 Blocks, Pileru and Madanapalledivisions were purposively selected for the study as having highest number of RBKs. In the next stage of the sampling process villages selection was made. Among them 10 were selected each from pileru and Madanapalle divisions for the study, From each village 10 respondents were selected for the study based on simple random sampling thus making a total sample size of 200.The data thus collected were processed, tabulated and analyzed by using frequency, percentage and mean weight score. The main objectives of this study were perception and utilization of services of RBKs by the farmers.

Constraints were enlisted through interview schedule and were ranked with the help of Garrett˝s Ranking Technique (1969). Garrett˝s Ranking Technique was used to identify and rank the constraints. Garret˝s ranking technique provides the change of orders of constraints and advantages into

numerical scores. The prime advantage of this technique over simple frequency distribution is that the constraints are arranged based on their importance from the point of view of respondents. Garret's formula for converting ranks into percent was given by

Per cent Position = 100 (Rij-0.5)/Nj

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Rij = Rank given for ith item by the j th sample respondents

Nj = Number of factors ranked by j th sample respondents

The per cent position of each rank was converted into scores referring to the table given by Garret and Woodworth (1969). For each factors, the scores of individual respondents were added together and divided by the total number of the respondents for whom scores were added. These mean scores for all the factors were arranged in descending order, ranks were given and most important factors were identified.

Results and discussion

Comment [M1]: In this section, citations to other articles and researches have not been used and it is necessary to validate the analysis by using research sources in reputable journals.

Table 1: Perception and utilization of services ofRBKs (n= 200)

S.No	Item	Perception				Utilization			
		Yes		No		Yes		No	
		F	P	F	P	F	P	F	P
1.	Soil & water testing facility	66	33	134	67.0	18	27.27	48	72.7
2	Seed germination test facility	11	5.5	189	94.5	2	18.18	9	81.8
3	e-crop booking	197	98.5	3	1.5	192	97.5	5	2.5
4	Free crop insurance/ animal insurance	189	94.5	11	5.5	176	93	13	7
5	Provision of quality seed (green manure/ crop seed/fodder seed/concentrate feed) through D-Krishi/Minikits	123	61.5	77	38.5	118	96	5	4
6	Distribution of quality fertilizers	116	58	84	42	116	100	--	--
7	Distribution of quality pesticides	41	20.5	159	79.5	41	100	--	--

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8	Provision of loan, weather and market prices information through CM APP	63	31.5	53	26.5	63	100	--	--
9	Maintenance of custom hiring center's	5	2.5	195	97.5	5	100	--	--
10	Provision of need based information to farmers on crop health management	76	38	124	62	41	54	35	46
11	Maintenance of digital library and information material for enhancement of farmers knowledge	71	35.5	129	64.5	52	73.23	19	26.77
12	Organization of capacity building programmes to farmers in recent advances in agriculture by scientists	123	61.5	77	38.5	73	59.3	50	40.7
13	Organization of polambadi/thotabadi/pasuvigyanbadi	11	5.5	189	94.5	5	45.45	6	54.55
14	Maintenance of digital kiosk for booking inputs	116	58	84	42	89	76.72	27	23.28
15	Maintenance of smart TV for interaction with scientists and other experts through audio and video conferences and dissemination of technology	61	30.5	139	61.5	31	50.81	30	49.19
16	Integrating with ICC, RBK channel for farmers queries and farmers-scientists interaction	34	17	166	83	13	38.23	21	61.77
17	Provision of free vaccination to animals, first aid for animals and treatment after consulting VAS, deworming and semen collection	73	36.5	127	63.5	65	89.04	8	10.96
18	Provision of animal health cards	62	31	138	69	59	95.16	3	4.84
19	Provision of guidance on extent of loan eligibility through bank mitra and information on government schemes	13	6.5	187	93.5	13	100	0	0
20	Identification of beneficiaries for various government schemes	193	96.5	7	3.5	171	88.60	22	11.40
21	Provision of biofertilizers and biofungicides	11	5.5	189	94.5	11	100	0	0
22	Provision of IPM kits like pheromone traps, sticky traps, lures etc.	11	5.5	189	94.5	11	100	0	0
23	Provision of farmer groups like FPO's, Cooperative societies, FIGs etc.	10	5	190	95	10	100	0	0
24	Purchase of surplus produce at MSP when market price falls below MSP	41	20.5	159	79.5	33	80.48	8	19.52
25	Provision ofgodowns to store the produce during glut.	5	2.5	195	97.5	2	40	3	60

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26	Conduct of advisory board meeting once in	15	7.5	185	92.5	15	100	0	0

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	a month								
27	Provision of all inputs viz., fertilizers, pesticides, seed etc. at a lower price compared to local market	116	58	84	42	89	76.72	27	23.28
28	Provision of inputs readily or on demand	41	20.5	159	79.5	41	100	0	0
29	Promotion of organic farming/ natural farming/ ZBNF etc.	10	5	190	95	10	100	0	0
30	Provision of organic inputs like neemcake, vermi compost, neem oil, natural farming productsetc.	10	5	190	95	10	100	0	0
31	Provision of separate market for organically produced goods and services	19	9.5	181	90.5	17	89.47	2	10.53
32	Assistance in organic certification	4	2	196	98	0	0	4	100

From table 1 it could be inferred from Table 1 that one-third (33%) of the farmers have perception and more than one-fourth (27.27%) utilized the services provided by RBKs on Soil and water testing facility. Followed by for Seed germination test facility very few (5.5%) hold perception and among perceived farmers nearly one-fifth (18.80%) utilized this service from RBK. For e-crop booking overwhelming majorities (98.50%) have perception and among perceived farmers mainstream (97.50%) utilized it. For free crop insurance/animal insurance Majority (94.50%) of the farmers have perception and 93.00 per cent of the perceived farmers utilized it. For provision of quality seed from RBK nearly two-third (61.50%) of the farmers have perceived and almost all (96.00%) of the perceived farmers utilized it. For provision of quality fertilizers from RBK more than half (58.00%) have perceived and utilized it; for provision of quality pesticides from RBK nearly one-fifth (20.50%) have perceived and utilized it. Provision of loan, weather and market prices information through RBKnearly one-third (31.50%) of the farmers have perceived and utilized it and for maintenance of custom hiring centers very few (2.5%) farmers perceive and utilize it. For provision of need based information to farmers on crop health management 38.00 per cent have perceived and among perceived farmers 54.00 per cent farmers have utilized it. On perception and utilization of digital library and information material from RBKs farmers were having 35.50 per cent and 73.23 per cent respectively. With respect to perception and utilization of smart TV for interaction with scientists and other experts were 30.50 per cent and 50.81 per cent respectively. For organization of capacity building programmes to farmers in recent advances in agriculture by scientists nearly two-third (61.50%) have perception and among perceived 59.30 per cent have utilized it from RBK and for organization of polambadi/thotabadi/pasuvigyanbadiby RBKs minuscule (5.5%) of the farmers have perception and among perceived 45.45 per cent had utilized it. For integrating with ICC, RBK channel for farmers queries and farmers-scientists interaction 17.00 per cent of the farmers were having perception and among perceived 38.23 per cent have utilized it. With respect to provision of free vaccination to animals more than one-third (36.50%) have utilized it and among perceived 89.04% have utilized it and for provision of animal health cards by RBK staff 31.00 per cent have utilized it and 95.16 per cent among perceived utilized it. On Provision of guidance on extent of loan eligibility through bank

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mitraand information on government schemes from RBKs very few (6.50%) of the farmers were having perception and cent per cent of the perceived farmers have utilized it. Identification of beneficiaries for various government schemes by RBK staff an overwhelming (96.50%) was having perception and 88.60 have utilized it. Provision of biofertilizers, biofungicides and in IPM kits, minuscule (5.5%) of the farmers were having perception and utilization. With respect to mobilization and organization of farmer groups like FPO's, Cooperative societies, FIGs etc. 5.00 per cent of the farmers were having perception and cent per cent of the perceived have utilized it. For Purchase of surplus produce at MSP when market price falls below Minimum Support Price (MSP) by RBKs one-fourth (20.40%) of the farmers were having perception and more than three-fourth (80.48%) have utilized it. In provision of information ongodowns to store the produce during glut negligible (2.5%) of the farmers avail information on it and with respect to conduct of agri advisory meeting once in a month very few (7.5%) of the farmers have attended it. With respect to provision of inputs like fertilizers, pesticides, seeds from RBKs more than half (56.00%) of the farmers have perception and 45.00 per cent of the perceived have utilized it. For provision of inputs readily or on demand (fertilizers and pesticides) from RBKs, one-fifth (20.50%) of the farmers have perception about it and cent per cent of the perceived have availed it. Very few (5%) of the farmers have perception and utilization about promotion of organic farming/natural farming and provision of organic inputs. Nearly one-tenth (9.50%) of the farmers has perception about provision of assistance in separate market for organically produced products through RBKs. Negligible (2.00%) of the farmers have been provided assistance in organic certification by RBK staff.

For e-crop booking an overwhelming (98.5%) availed services from RBK the plausible reason might be that it is a single window approach for farmers where all sort of services (input subsidy, subsidized seed, crop insurance, PM-Kisan and YS Rythu Barossa) and input points are available at one point. Followed by majority (96.5%) of the respondents have perception and utilized the service of RBK staff in being identified as beneficiaries for various government schemes it might be due to implementation of various agriculture and allied sector schemes by state government like free bore well scheme, free crop insurance scheme, farm mechanization and to avail these benefits. Majority (94.5%) utilized the free crop insurance scheme being implemented through RBKs it might be due to due to implementation of free crop Insurance scheme by state government for the loss of all the notified crops due to natural calamities. There will be around 22 notified crops. This crop Insurance will be free of cost. Previously the farmers were required to pay a high premium amount in order to take benefits of the Crop Insurance Scheme. Followed by more than half (61.50%) utilized the provision of quality seed/green manure seed and organization of capacity building programmes to farmers by RBKs by inviting scientists either through online/offline it might be due to problems faced by farmers like low yield, increased cultivation expenses,increased incidence of pest and diseases might have motivated them to avail the facility of quality seeds of various crops like groundnut and paddy and to acquire latest improved technologies in agriculture and allied sectors to enhance productivity, to become economically self-reliant, reduce cost of cultivation might have promoted them to attend capacity building programmes conducted by RBKs by inviting scientists from Regional Agricultural Research Station (RARS) and KrishiVigyan Kendra's (KVKs). More than half (58.00%) of the farmers have perception and utilization towards maintenance of digital kiosk for booking inputs and provision of inputs at lower price compared to market price the probable reason might be that to avail quality inputs like

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seeds, fertilizers, pesticides, animal husbandry and fisheries inputs they have to register and keep indent through digital kiosks which operates on hub-spoke the indent order will be sent to hub which operates at block level for supply of ordered inputs to farmers.

Very few (<5%) of the farmers have perception and utilization towards organic certification, availing organic inputs like neem cake, vermi compost, neem oil, natural farming products, IPM kits, biofertilizers and biofungicides the plausible reason might be that implementation of Farmer Field School programme for creating awareness about the scientific methods of agricultural production and to achieve higher agricultural income at lower cost on cluster basis by RBKs and provision of IPM kits and organic inputs to those cluster farmers might have resulted in lesser perception and utilization. With respect to organic certification lack of awareness to RBK staff and tedious procedures in acquiring organic certificate might have contributed to lesser perception and utilization.

Fig 1: Graphical presentation of utilization of services

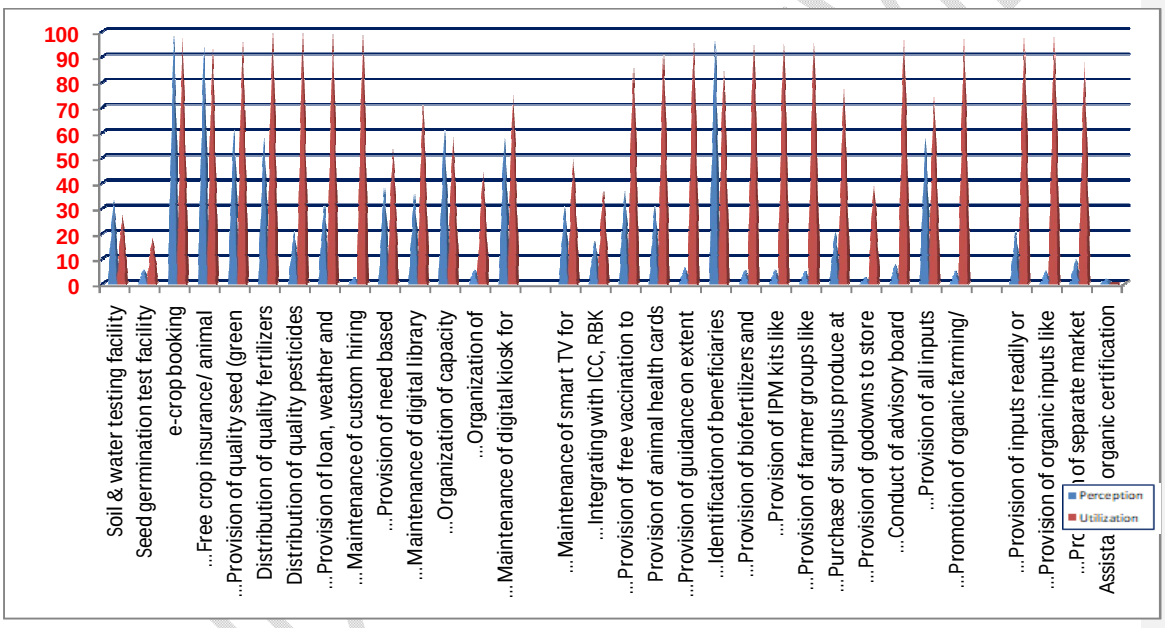

Table 2: Technological Constraints elicited by farmers for non-utilization of services of RBKs

S.No.	Technological constraints	Frequency	Percentage	Garett Ranking
1	Poor knowledge about the services offered by RBKs	140	77.78	II
2	Non availability of organic inputs	90	50.00	VII
3	Lack of infrastructure facilities at RBK premises	102	56.67	V

	i.e., warehouses and coldstorages			
4	Poor knowledge on suitable cropping systems in Integrated Farming System and their interaction	156	86.67	IX
5	Lack of knowledge aboutimproved technologies in agriculture by RBK in charge	96	53.33	III
6	Dearth of timely sourcing of quality inputs and services	144	80.00	I
7	Difficult to get timely information from RBKstaff	144	80.00	IV
8	Non-availability of improved varieties of seed/breeds /fertilizers	88	48.88	VIII
9	Lack of training on skilled work performance among RBK staff	85	47.22	X
10	Lack of knowledgeand skillon online marketing/marketinginformation, weather information	98	49.00	VI

The foremost constraint expressed by farmers were dearth of timely sourcing of quality inputs and services it might be due to meager performance of RBK in the study area/quite few number of farmers aware of the activities carried out by the RBK. The next most important constraints revealed by farmers were poor knowledge about the services offered by RBKs and lack of knowledge aboutimproved technologies in agriculture by RBK in charge itmay be due to lackof technical guidance /competencies of RBK staff, fewer number of need based training programmesand rarer joint diagnostic field visits of RBK staff with scientific staff to farmers fields. As difficult to get timely information from RBKstaff is ranked fourth it might be due to less or non-subscription of RBK channel as it will help the farmer to get latest information on agriculture and allied sectors.

Table 3: Suggestions offered by farmers for effective functioning of RBKs (n=200)

S.No.	Suggestions	Frequency	Percentage	Rank
1	Motivating farmers for effective utilization of RBKs	178	89	I
2	Maintenance of Custom Hiring centers at RBK (Dryers, Harvesters, Tillers, cultivators, drum seeder), Godowns	174	87	II
3	Provision of timely information on services provided by RBK	152	76	IV
4	Provision of organic inputs, separate markets for organic inputs	149	74.5	V
5	Maintenance of fertilizers on demand in RBKs	156	78	III
6	Arrangement of farmer-scientist interaction meeting fortnightly once on fixed day	136	68	VII

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7	Provision of IPM kits (fruit fly traps, pheromone traps, lures)	128	64	VIII
8	Maintenance of bio fungicides, bipopesticides for invasive pest control	123	61.5	IX
9	Provision of market facilities at RBK level	141	70.5	VI

The notable suggestion articulated by farmers were motivating farmers for effective utilization of RBKs it may be due to 'dearth of timely sourcing of quality inputs and services' was the foremost constraint to overcome it respondents suggested it. Followed by Maintenance of Custom Hiring centers at RBK (Dryers, Harvesters, Tillers, cultivators, drum seeder), Godowns may be due to existing infrastructure of RBK is insufficient to meet the needs of farming.

Table 4: Suggestions offered by extension functionaries for effective functioning of RBKs

S.No.	Suggestions offered by extension functionaries
1	Need based training to VAAs/VHAs/VSAs
2.	RBK should render service based on seasonal news of farmers along with its regular work
3.	Joint diagnostic field visit of RBK staff with SAU scientists
4.	Development of mobile application for availing diagnostic, advisory services and integrating with integrated call center to gain first-hand information
5.	Efforts have to made for more Subscription of RBK channel
6.	Regular technical guidance of VAA/VHA/VSA help quick transfer of technology

Conclusion

RBK with development of sufficient infrastructure plays an important role in transforming traditional agriculture into modern agriculture and provision of access to information at village level through RBK is boon to the farming community if they render service based on seasonal needs of farmers along with its regular work.

Comment [M2]: The conclusion is very short, it is better to have a more interpretive result.

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Comment [M3]: Resources are scarce and you need to use other sources to validate your article.

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