Original Research Article

Effectiveness of RythuBharosaKendras (RBKs) services as perceived by farmers in the East Godavari district of Andhra Pradesh

ABSTRACT

RythuBharosaKendram is One Stop Shop for supplying ~~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 a Call. The study investigated the effectiveness of services of RBK perceived by farmers in the East Godavari district of Andhra Pradesh during 2021-2022. A total sample of 120 farmers was randomly selected from twelvevillages *viz*. Kadiyam, Vemagiri, Muramanda, Kalavacherla, Rajanagram, Velugubanda, Geddanapalli, Bhupalapatnam, S. thimmapuram, Bhatnavalli, Rollapalem and Nadipudi of East Godavari district in Andhra Pradesh. The data were collected with a structured interview schedule. The perceived effectiveness of the services of RBKs was studied. It was observed that half (50.83%) of the farmers perceived that services rendered by RBKs were moderately effective followed by highly effective (34.17%) and less effective (15.00%) categories. It can be recommended to the government and policy makers for improvement~~improving~~. ~~restructuring~~Restructuring, reforming and modifying the services from RBKs to enhance their~~for enhancing its~~ effectiveness further.

Key words:RBKs, Perceived Effectiveness

Comment [ma1]: Need to be complete by results, separately

Introduction

Agriculture is the main source of livelihood for most of the population in India. Pre and post-green ~~post green~~ revolution extension systems in India ~~had~~ played a commendable role in the dissemination of transfer of technologies (*Anuhya et.al 2022*).On the other hand, farmers encounter numerous issues while buying inputs, selling their products and determining market prices etc.There are limited testing facilities for agricultural inputs like seeds, fertilizers and pesticides in the state. All of these~~All these~~ lead to the supply of low-quality inputs to farmers leading to huge losses (*Anuhya et.al 2022*).The availability~~Availability~~ of extension functionaries to farmers is very less. The present extension worker-to-farmer~~worker to farmer~~ ratio is 1:1162 (*Reddy, 2018*).Andhra Pradesh is being an agrarian state. The government~~Government~~ of Andhra Pradesh focuses ~~focusing~~ more on ~~for~~ the welfare of the farming community by providing hassle-free~~hassle free~~ services at the village level (*Reddy, 2020*).As a result,~~of~~ that the government established10,641 RythuBharosaKendras (RBKs) on 30.05.2020 in all village secretariats with qualified personnel from various disciplines in agriculture and allied sectors. RBK is an innovative approach by the government for providing an integrated platform to address the needs of the farmers.Before, farmers who needed assistance had to go to the offices of agriculture, horticulture, veterinary medicine, and fisheries at the Mandal level. However, the technical staff (VAA- Village Agricultural Assistant / VHA- Village Horticulture Assistant / VSA- Village Sericulture Assistant / VFA- Village Fisheries Assistant (only in the locations where intensive fish farming is practised) are now easily accessible to the farmers at village level

Formatted: Font: (Default) Times New Roman, 12 pt

since implementation of RBK.These centres offer~~ing~~ services like delivery of inputs to farmers, technical advisories, soil testing, training farmers, crop insurance crop booking, providing market intelligence, plant health clinics, interaction with scientists and other experts through audio and video conferences ~~conference~~ on the smart TV, technical advisories on best management practices of the crop, issuing health and insurance cards for livestock, vaccination for animals.Accordingly, the Agriculture Department has recruited 6758 VillageAgriculture Assistants and placed them in RBKs (*Babu et al. 2021*).The system of RBKs brought the extension system more closely to ~~farming~~ the arming community (*Reddy, 2020*) and strengthened ~~strengthening~~ the farmers both economically and technologically.The RBK concept is one of the six initiatives that were nominated by the Centre for the UN Award. The initiative has revolutionised the agriculture sector by meeting farmers' needs from seed to sale ((*Anuhya et.al 2022).*

The RBKs provide~~s~~ single window services for Agriculture and allied sector farmers as the scheme were ~~was~~ designed to be as successful as possible in assisting the farming community in enhancing their farm income, participation from the farming community should be higher.Since its ~~the~~ inception, the scheme had faced various challenges in its implementation.The ultimate objective of the farming community's well-being~~wellbeing~~ was hampered by a number of inconsistencies at both the organisational and individual levels.The value and effectiveness of any scheme can only be judged throughthe perception and response of the beneficiaries *(Badodiyaet al.,* 2010).The success of this scheme largely depends upon the knowledge possessed and effectiveness perceived by the farmers*(Rajuet al.2022*) towards various services and functioning of the RBKs.Therefore, a systematic study was conducted to measure the effectiveness of the services of RBKs as perceived by the beneficiary farmers.

METHODOLOGY

The study was conducted in the East Godavari district of Andhra Pradesh during 2021-2022 by adopting an ~~Exploratory~~exploratoryresearch design. East Godavari was purposively selected for the study as the highest number of RBKs were existing. Four mandalswere selected with the highest number of RBKs. From each selected mandal, three villages were selected by using a simple random sampling procedure *viz*kadiyam, vemagiri, muramanda from kadiyammandal; kalavacherla, Rajanagaram and velugubanda from Rajanagarammandal; Geddanapalli, Bhupalapatnam, S. thimmapuram from Kirlampudimandal; Bhatnavilli, Rollapalem, Nadipudi from Amalapurammandal.From each of the selected villages~~village~~,ten beneficiary farmers were selected randomly, making a total of 120 respondents. The primary data were collected personally with the help of an interview schedule; the interviews were conducted ~~on~~ inthe farmer's fields~~farmer's field~~ or in their homes through face-to-face contact. The services were categorized into five categories i.e. Capacity building ~~services ,~~services, input rendering ~~services ,~~services, veterinary ~~services ,~~services,the information providing services and miscellaneous services.Various statements regardingthe services of RBKs were presented to the respondents with three possible answers for each statement scored on a continuum of 3 to 1 viz. good, fair and poor. Later the responses were tabulated and analysed by using statistical tools such as frequency and percentage. The standard~~Standard~~ normal deviation (Z) test was used to measure the

effectiveness of the services of RBKs. Accordingly, the ranks were given to each item based on the Z value. The formula used for the purpose was given below.

$$\bar{Z} = \frac{\sum Z_i}{n} Z_i = \frac{x_i - \bar{x}}{\sigma}$$

Where xi is the score for theith item, $\bar{x}$ is the mean score of all items, n is the number of items and σ is the Standard deviation calculated on x_i values. The perceived effectiveness was categorized into three categories of the level of perceived effectiveness i.e. less effective, moderately effective and highly effective.

Formatted: Justified

RESULTS AND DISCUSSION

The data on the classification of sample respondents according to their level of effectiveness of RBK services perceived by farmers was given in Table 1. The majorityMajority of the respondents (50.83%) had perceived moderately effective followed by highly effective (34.17%) and less effective (15.00%) of services of RBKs. The respondents were observed in all the categories butcategories but the least proportion were wasfound in the lessperceived effectiveness category and a major proportion of respondents fell in the categories of moderately andmoderately andhigh. The findings are werein accordance with the study reported by Riar and Rupinder (2014),and Shrutika (2017).

Formatted: Justified

From the table 2, it could be concluded conclude that more than three fourth (80.00%) of the farmers perceived the effectiveness of service in the organization of polambadi/thotabadi/ pasuvigyanbadi by the VAA/VHA/VFA as good followed by fair (13.34%) and poor (6.66%).It was ranked first (Z= 1.32).More than two third (72.50%) of the respondents perceived effectiveness in service of conduct of advisory board meeting once in a month by the technical staff as good followed by fair (15.84%) and poor (11.66%).More than half (55.83%) of the farmers perceived effectiveness in service of maintenance of the digital library and information material for enhancement of farmers' knowledge as good followed by fair(23.34%) and poor (20.83%). Less than half (45.00%) of the farmers perceived effectiveness in the service of organization of capacity programmesprograms to farmers in recent advances in agriculture by scientists as good followed by fair (32.50%) and poor (22.50%). Nearly two third (65.84%) of the farmers perceived effectiveness in service of maintenance of smart TV at RBK for interaction with scientists and other experts as poor followed by fair (18.33%) and good (15.83%).

It was clear from table 3 that more than three-fourthsthree fourth (76.66%) of the farmers perceived effectiveness in maintenance of digital kiosks for booking inputs at RBKs as good followed by fair (19.16%) and poor (4.18%).it It was ranked first (Z = 1.62) among the input rendering services. The majorityMajority (72.50%) of the farmersfarmers' perceived effectiveness in RBKs are providing inputs at a lower pricelower price compared to the local market as good followed by fair (24.17%) and poor (3.33%).more More than half (65.84%) of the farmers perceivedthe effectiveness of in RBKs are working for delivery of the certified products at the right price & right time as good followed by fair (27.50%) and poor (6.66%).nearly half (45.00%) of the respondents had perceived effectiveness in the service of of multi multi-brand quality of inputs are made available to the farmers through RBKs as fair

Formatted: Justified

followed by good (27.50%) and poor (27.50%).Most(43.33%) of the farmers perceived effectiveness in farming implements made available for hire from RBK custom hiring centres as poor followed by fair (30.83%) and poor (25.84).Almost half (49.17%) of the farmers perceived effectiveness in the supply of ~~bio~~ bio-fertilizers and bio fungicides to the farmers at RBK as poor followed by fair (27.50%) and good (23.33%).more than half (53.33%) of the respondents perceived supply of organic inputs like neem cake, vermicompost,neem oil at RBK as poor effectiveness followed by fair (29.17%) and good (17.50%). The ~~Majority~~ (65.83%) of the farmers perceived effectiveness in the provision of IPM kits like pheromone traps, sticky traps etc to the farmers through RBKs as poor followed by fair (21.67%) and good(12.50%).

The data presented in ~~the~~ table 4 revealed that most (70.00%) of the farmers perceived effectiveness in the provision of free vaccination to animals as good (70.00%) followed by fair (23.33%) and poor (6.67%).~~it~~ It was ranked first (Z= 1.12) among the veterinary related services. The ~~Majority~~(65.83%) of the farmers perceived effectiveness in providing ~~of~~ animal health cards at RBK as good followed by fair (26.67%) and poor (7.50%).~~more~~ More than half (55.00%) of the farmers perceived effectiveness in service of ~~firt~~first aid for animals,deworming and semen collection as poor followed by fair (25.84%) and good (19.16%). Less than three-fifth (55.84%) of the farmers perceived effectiveness in providing free animal insurance as poor (55.84%) followed by fair (22.50%) and good (21.66%).

A bird's eye view of table 5 showed that nearly half (48.33%) of the farmers perceived effectiveness in the service of RBKs are working towards channelization of Government schemes as good followed by fair (37.50%) and poor (14.17%).It was ranked first (Z= 0.53) among the ~~information~~ information-providing services.~~nearly~~ Nearly ~~two-fifths~~ ~~two fifth~~ (39.16%) of the farmers perceived effectiveness regarding information displayed at RBK are useful to get the information of Government schemes as good followed by fair (35.84%) and poor (25.00%).~~nearly~~ Nearly half (48.33%) of the farmers perceived effectiveness RBKs ~~are~~ were working effectively for providing advisory services in integration with a call centre as poor followed by fair (28.34%) and good (23.33%).~~majority~~ The majority (68.33%) of the respondents perceived effectiveness in the provision of guidance on the extent of loan eligibility through bank mitra and information on government schemes as poor followed by good (18.33%) and fair (13.34%). M~~m~~ore than three fourth (80.00%) of the farmers perceived effectiveness in the RBK channel for farmer~~s~~ queries and farmers-scientists interaction as poor followed by fair (10.84%) and good (9.16%).

A cursory look at table 6 depicts that the majority (72.50%) of the farmers perceived effectiveness in the marketing of farm produce at the village made easy by RBK through procurement centres as good followed by fair (20.00%) and poor (7.50%).Three fifth (60.83%) of the farmers perceived effectiveness in the purchase of surplus produce at MSP when the market price falls below MSP as good followed by fair(24.17%) and poor (15.00).Nearly ~~two~~ two-fifths ~~fifth~~ (39.16%) of the farmers perceived the effectiveness ~~in~~ of providing free crop insurance as good followed by fair (35.84%) and poor (25.00%).~~more~~

Formatted: Justified

Formatted: Highlight

Formatted: Justified

More than half (55.00%) of the farmers perceived effectiveness in the promotion of organic farming/naturing farming/ZBNF as poor followed by fair (25.84%) and good (19.16%).More ~~more~~ than three fourth (81.66%) of the respondents perceived effectiveness in the grouping of farmers into Farmer Producer Organizations (FPO), Cooperative societies, Farmer Interest Groups etc as poor followed by fair (10,83%) and good (7.50%).

Table 1Distribution of farmers according to perception on effectiveness of services provided by RBKs

(n= 120)

S. No.	Category	F	%
1.	Less effective (<52.27)	18	15.00
2.	Moderately effective (52.27 – 59.37)	61	50.83
3.	Highly effective (>59.37)	41	34.17
Total:		**120**	**100.00**
Mean = 55.82		S.D = 5.55	

* F=Frequency %=Percentage

Table 2: Effectiveness as perceived by respondents in relation to capacity building services

S. No	Capacity building services	Good		Fair		Poor		Z Value	Rank
		F	%	F	%	F	%		
1	Organisationof polambadi/ thotabadi / pasuvigyanbadi by VAA/VHA/VFA	96	80.00	16	13.34	8	6.66	1.32	1
2	Conduct of advisory board meeting once ~~in~~ a month by the technical staff in the RBK	87	72.50	19	15.84	14	11.66	1.07	2
3	Maintenance of digital library and information material for enhancement of farmers knowledge	67	55.83	28	23.34	25	20.83	0.54	3
4	The ~~O~~organisation of ~~capacity~~ capacity-building programmes for ~~to~~ farmers in recent advances in agriculture by scientists	54	45.00	39	32.50	27	22.50	0.31	4

5	Maintenance of smart TV at RBK for interaction with scientists and other experts through audio and video conferences and dissemination of technology	19	15.83	22	18.33	79	65.84	-1.07	5

Table 3: Effectiveness as perceived by respondents in relation to Input rendering services

S. No	Input rendering services	Good		Fair		Poor		Z Value	Rank
		F	%	F	%	F	%		
1	Maintenance of digital kiosk for booking inputs at RBK	92	76.66	23	19.16	5	4.18	1.30	1
2	RBKs are providing inputs viz; fertilizers, pesticides, and seed at a lower price compared to the local market	87	72.50	29	24.17	4	3.33	1.24	2
3	RBKs are working forthe delivery of the certified product at the right price &the right time	79	65.84	33	27.50	8	6.66	1.04	3
4	~~Multi~~ Multi-brand quality ~~of~~ inputs are made available to the farmers through RBKs	33	27.50	54	45.00	33	27.50	-0.13	4
5	Farming implements shall be made available for hire from RBK custom hiring centres	31	25.84	37	30.83	52	43.33	-0.48	5
6	Supply of biofertilizers and bio fungicides to the Farmers at RBK	28	23.33	33	27.50	59	49.17	-0.64	6
7	Supply of organic inputs like neem cake, vermicompost, and neem oil at RBK	21	17.50	35	29.17	64	53.33	-0.84	7
8	Provision of IPM kits like pheromone traps, sticky traps, and lures to the farmers by RBK	15	12.50	26	21.67	79	65.83	-1.19	8

Table 4: Effectiveness as perceived by respondents in relation to Veterinary services

S. No	Veterinary services	Good		Fair		Poor		Z Value	Rank
		F	%	F	%	F	%		
1	Provision of free vaccination to animals	84	70.00	28	23.33	8	6.67	1.12	1
2	Providing ~~of~~ animal health cards at RBK	79	65.83	32	26.67	9	7.50	1.02	2
3	First aid for animals, deworming and semen collection	23	19.16	31	25.84	66	55.00	-0.79	3
4	Free animal insurance	26	21.66	27	22.50	67	55.84	-0.81	4

Formatted Table

Table 5: Effectiveness as perceived by respondents in relation to information providing services

S. No	Information providing services	Good		Fair		Poor		Z Value	Rank
		F	%	F	%	F	%		
1	RBKs are working towards the channelization of Govt schemes	58	48.33	45	37.50	17	14.17	0.53	1
2	The ~~Information~~ information displayed at RBKs is ~~are~~ useful to get ~~the~~ information on ~~of~~ Govt schemes	47	39.16	43	35.84	30	25.00	-0.12	2
3	RBKs are working effectively for providing advisory services in integration with call centre	28	23.33	34	28.34	58	48.33	-0.63	3
4	Provision of guidance on the extent of loan eligibility through bank mitra and information on government schemes	22	18.33	16	13.34	82	68.33	-1.11	4
5	RBK channel for farmer~~s~~ queries	11	9.16	13	10.84	96	80.00		

Formatted Table

	and farmers-scientists interaction							-1.49	5

Table 6: Effectiveness as perceived by respondents in relation to Miscellaneous services

S. No	Miscellaneous Services	Good		Fair		Poor		Z Value	Rank
		F	%	F	%	F	%		
1	Marketing of produce at the village made easy by RBK through procurement centres	87	72.50	24	20.00	9	7.50	1.14	1
2	Purchase of surplus produce at MSP when the market price falls below MSP	73	60.83	29	24.17	18	15.00	0.74	2
3	Free crop insurance	47	39.16	43	35.84	30	25.00	-0.12	3
4	Promotion of organic farming /natural farming / ZBNF	23	19.16	31	25.84	66	55.00	-0.79	4
5	Grouping of farmers into Farmer Producer Organizations (FPO), Cooperative societies, Farmer Interest Groups etc	9	7.50	13	10.83	98	81.67	-1.55	5

Formatted Table

CONCLUSION

It can be concluded that the majority of the respondents had perceived overall moderately tohighly effective~~on~~ services of RBKs.The focal point of this research study was to assess the effectiveness of RBK services as perceived by the farmers in enhancing their farm income. The findings revealed that farmers perceived RBKs were moderately effective. This serves ~~server~~ as an indication for the policy makers/researchers/extension~~makers / researchers / extension~~ functionaries that there was a wider gap between the intent and execution of ~~programme~~program. This finding throws light on ~~to~~ the government and policy makers while drafting the plans for improvement~~improving~~. ~~restructuring~~Restructuring, reforming and modifying the services from RBKs. Thus, various strategies should be implemented to enhance the effectiveness ofthe services of RBKs further.

References

Anuhya, P., Kisku, U., Khare, N.K and Ramakrishna, M. 2022.A Study on Awareness, Constraints and Suggestions About RythuBharosa Kendra (RBK) Services by the Beneficiary Farmers in Ananthapuram District of Andhra Pradesh.*Multilogic in science journal*VOL. XII, issue XXXXIII.

Anuhya, P., Kisku, U. and Khare, N.K., 2022.A Study on Correlates of Profile Characteristics and Adoption Behaviour of RythuBharosa Kendra (RBK) Beneficiaries in Anantapur District, Andhra Pradesh. *Current Journal of Applied Science and Technology*. 41(24): 39-45

Babu, G.P., Jayalakshmi, M., Chaitanya, B.H., Srinivas, T. and Mahadevaiah, M., 2021. Effectiveness of Season Long Training Programme on Knowledge Levels in Kurnool District of Andhra Pradesh. *Indian Journal of Extension Education*, *57*(4), pp.44-48.

Badodiya, S.K.; Daipuria, O.P.; Shakya, S.K.; Garg, S.K. and Nagayach, U.N. 2010. Perceived effectiveness of farm telecast in transfer of agricultural technology. *Indian Res. J. Ext. Edu.*, 10 (1): 109-111.

Dhiraj, K.S and Premlata, S. 2014. Effectiveness of Training Programmes under Agricultural Technology Management Agency in Bihar. *Indian Research Journal of Extension Education*. 14 (1): 93-95.

Mukherjee, A.; Bahal, R.; Burman, R.R.; Dubey, S.K. and Jha, G.K. 2016. Eff ectiveness of Tata KisanSansar in technology advisory and delivery services in Uttar Pradesh. *Indian Res. J. Ext. Edu.*, 11(3): 8-13.

Pandey, V.P., Yadav, G.C., Meena, P.D., Singh, D., Singh, A.K., Sharma, G., Sharma, A., Singh, A.K., Sahi, S.K., Chaudhari, R. and Singh, D., Editorial Members.

Raju, M.S.; Devy, M.R. and Gopal, P.V.S. (2020). Functioning of e-NAM in Duggirala market of Andhra Pradesh. In: National Conference on Transformation of Agricultural Extension- Strategies for Effective Reformation, at Bapatla from August 20-21, 2020, pp. 132.

Ramappa, P.2014. A study on performance of RaithaSamparkaKendrasin Davanagere District of Karnataka.*M.Sc.~~(~~. (Ag.) Thesis*. University of Agricultural Sciences, Bangalore

Reddy, D.A., 2020. RBKs Of Andhra Pradesh–One Stop Solution for The Needs of Farming Community. *VIGYAN VARTA*, *48*(51), p.22.

Riar, T.S and Rupinder Kaur .2014. Relative effectiveness of selected Extension Teaching Method for Imparting Knowledge about Poplar Cultivation to the Farmers. *Indian Journal of Extension ~~Education.~~*50*~~(~~Education*.50 (1&2): 84-86.

RupeshRanjan, Ansari, M. A., Verma, A.P., Shekhar, S and Rashit, S.2017.Farmers perception towards effectiveness of KrishiVigyan Kendra: A Study in Uttarakhand, India. *International Journal of Current Microbial Applied Sciences*. 6(3):878-890.

Saha, A., Kumar, P and Mandal, T. K.2015~~. Role~~. Role and perceived quality of services of agro advisory agents in Nadia district, West Bengal. *International Journal of Farm Science*. 5: 230-236.

Shanmukh.2020. Effectiveness of e-NAM in duggirala market of Andhra Pradesh.*M.Sc. (Ag.) Thesis.*Acharya N G Ranga Agricultural University, Guntur, Andhra Pradesh, India.

Shrutika, U.P.2017.Effectiveness of agriculture programmes of DD kisan channel as perceived by farmers". *M.Sc. (Ag.) Thesis*. VNMKV, Parbhani.