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Training need assessment of Village Assistants of Rythu Bharosa Kendras of Eluru District in Andhra Pradesh

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Abstract

The research study was conducted during the year 2023-24 in Eluru district of Andhra Pradesh. A well-structured and pre-tested interview schedule was developed in accordance with the objectives of the study. Data was collected from the 60 farmers, who were selected following proportionate random sampling technique in five mandals and six villages of Eluru district. For the present study *ex-post facto* research design was followed as the independent variables selected for the study were already existed and could not be manipulated by the researcher. Statistical tools Mean, Standard Deviation, Frequency, Percentage, Ranking techniques were employed for interpreting the results. This study mainly emphasized the profile characteristics, training needs of the Village Assistants and also the constraints and suggestions they elicited for improving their productivity. The major areas that required training for Village Assistants were highest for IPM, micro and integrated nutrient management, and crop establishment practices, while mechanization and zero tillage ranked lower. Major constraints included complex e-crop booking, fertilizer distribution delays, lack of storage and network issues. Suggested measures focused on simplifying digital processes, improving logistics and strengthening infrastructure.

Keywords: Training, assessment, village assistants, need assessment

Introduction

Agriculture remains the backbone of India's economy, employing 47% of the population and driving rural livelihoods, yet its growth hinges on effective extension services to disseminate modern technologies (Press Information Bureau, 2023). Rythu Bharosa Kendras (RBKs), launched on May 30, 2020, with 10,641 centers statewide, empower VAAs to ensure transparent input delivery within 24-48 hours, machinery hiring, and advisories, partnering with universities like ANGRAU for technical support. In Andhra Pradesh, an agrarian state, the Government established Village Secretariats across all Gram Panchayats in 2019, recruiting Village Agricultural Assistants (VAAs) and Village Horticultural Assistants

(VHAs) to deliver technical services, extension activities, and government schemes like e-crop booking and input distribution (GoAP, 2019; DoA, 2019) [3, 2]. These frontline workers, qualified with diplomas or higher, report to Mandal Agriculture Officers while coordinating with Panchayat secretaries. Training Needs Assessment (TNA) identifies competency gaps in improved practices and job functions, enabling tailored modules (Clarke, 2003; Kumarga Kavitha *et al.*, 2017) [1, 1]. Regular TNA for VAAs is crucial amid digital and logistical challenges, as emphasized by Hemanga Kumar K (2014). This research assesses VAAs' perceived training needs and constraints in on-campus/online programs, informing modules to enhance skills, scheme implementation, and farmer outreach for

sustainable agriculture.

Objectives of the study

1. To study the profile characteristics of the Village Assistants.
2. To identify Training Needs of Village Assistants.
3. To identify the constraints faced by village assistants and to elicit suggestions for arriving a strategy for improving their work productivity.

Materials and Methods

The present study was conducted during 2023-24 in Eluru district of Andhra Pradesh. A total of 5 mandals were selected i.e., Eluru, Pedapadu, Denduluru, Bhimadole, Buttaigudem. A total of 6 villages has been selected from those 5 mandals i.e. Chodimella, Pedapadu, Denduluru, Bhimadole, Polasanipalli, Seethampeta villages.

Respondents were selected following proportionate random sampling technique resulting in a total sample size of 60 village assistants. For the present study *ex-post facto* research design was followed as the independent variables selected for the study were already existed and could not be manipulated by the researcher. Data was collected through personal interviews, organized, and analyzed to determine the results and draw conclusions. Statistical tools Mean, Standard Deviation, Frequency, Percentage, Ranking techniques were employed for interpreting the results.

The response was collected on the three-point rating scale viz., “Mostly Needed”, “Needed” and “Not Needed” and quantified by assigning the scores of 3, 2 and 1 to the

aspects of the continuum, respectively. Based on the TNI, the Need Hierarchy Rank was assigned for identification of mostly needed topics among the given category. Training Need Index (TNI) was computed by using the formula:

$$\text{Training Need Index (TNI)} = \frac{\text{Score obtained}}{\text{Maximum Obtainable score}} \times 100$$

Results and Discussion

3.1 Profile characteristics of Village Assistants of RBK

The results in Table 1 depicts that respondents were predominantly young with 93% aged below 35 years, 7% in the 36-54 years range, and none above 55 years. Qualifications emphasized practical agriculture training, with 45% holding a Diploma in Agriculture, followed by B.Sc. (Ag) at 25%, B.Sc. (Hort) at 12%, B.Sc. at 10%, Ag. Engg. at 5%, and PG at 3%. Work experience was evenly distributed: 38% had 3-6 years, 33% exceeded 6 years, and 28% had 1-3 years.

Primary sources of agricultural information were scientists (63%), followed by Agricultural Officers (AO; 22%), others (10%), and Assistant Director of Agriculture (ADA; 5%). Training occurred most frequently on Fridays (35%) and Saturdays (27%), with 72% lasting 1 day. Venues favored farmers' fields (60%), research stations (23%), and DAATTC/KVK (15%). Timing aligned with crop cycles, with 55% during the season and 43% before. Nearly all respondents (97%) participated in exposure visits. Mass media exposure was predominantly medium (78%), followed by 15% high and 7% low.

Table 1: Frequency and Percentage Distribution of Village Assistants by Profile characteristics (n=60)

S. No.	Variable	Category	Frequency	Percentage
1.	Age	<35 yrs (Young age)	56	93.00
		36-54 yrs (Middle Age)	04	07.00
		> 55yrs (Old age)	00	00.00
2.	Qualification	Diploma in Ag	27	45.00
		B.Sc.(Ag)	15	25.00
		B.Sc (Hort)	07	12.00
		B.Sc	06	10.00
		Ag.Engg	03	05.00
		PG	02	03.00
3.	Work Experience	1 to 3 years	17	28.00
		3 to 6 years	23	38.00
		> 6 years	20	33.00
4.	Agriculture Information	AO	13	22.00
		ADA	03	05.00
		Scientists	38	63.00
		others	06	10.00
5.	Week training	Monday	10	17.00
		Tuesday	02	03.00
		Wednesday	07	12.00
		Thursday	04	07.00
		Friday	21	35.00
		Saturday	16	27.00
6.	Training Duration	1 day	43	72.00
		1 to 2 days	09	15.00
		2 to 3 days	03	05.00
		3 to 5 days	03	05.00
		> 5 days	02	03.00
7.	Training venue	Farmers' Training Centres	01	02.00
		Research Stations	14	23.00
		DAATTC/KVK	09	15.00

		Farmers' Fields	36	60.00
		Others	00	00.00
8.	Training Time	Before crop season	26	43.00
		During crop season	33	55.00
		After crop season	01	02.00
9.	Exposure visit	Yes	58	97.00
		No	02	03.00
10.	Mass media exposure	Low (19.9)	04	07.00
		Medium (19.9-26.2)	47	78.00
		High (26.2)	09	15.00

3.2. Training needs of Agriculture Assistants of RBKs

Table 2 represents the training needs of agricultural assistants across various agricultural domains, categorized as "Most Important", "Important," or "Not Important," with total scores and ranks derived from a standardized scoring system (likely 3-2-1 weights).

Integrated Pest Management (IPM) emerged as the top priority, with 57 respondents (95%) selecting it as most important, yielding the highest score of 176 (Rank I). Micro Nutrient Management closely followed at 86.67% (52 respondents; score 172; Rank II). Varieties and Nutrient Management tied at 85% (51 respondents each; score 171; Rank III), while Integrated Nutrient Management scored 170 (83.33%; Rank IV).

High-priority clusters focused on crop protection and nutrition: Method of Planting (70%; score 162; Rank V), Weed Management (70%; score 160; Rank VI) and Sowing Time (68.33%; score 159; Rank VII). Moderate needs

included Harvest and Post-Harvest Management (60%; score 156; Rank VIII), Veterinary Pest Management (58.33%; score 155; Rank IX), Organic Farming (60%; score 151; Rank X), and Zero Budget Natural Farming (51.67%; score 150; Rank XI). Lower priorities encompassed Integrated Weed Management (48.33% "Most Important"; score 149; Rank XII), Farm Mechanization (41.67%; score 143; Rank XIII), Land Preparation (43.33%; score 142; Rank XIV), Summer Pulses (38.33%; score 140; Rank XV), and tied lowest: Irrigating Dry Crops and Zero Tillage Management (both score 119; 23-35% "Not Important"; Rank XVI).

These findings align with the observations of Reddy *et al.* (2023)^[8] and Mohan *et al.* (2021)^[7] similarly reported that Integrated Pest Management (IPM)), micronutrient management, integrated nutrient systems, and low mechanization priority are the major training needed areas.

Table 2: Area of training needs to Village Assistants

S. No	Areas of training needed	Level of training needed (n=60)						Total Score	Rank
		Most Important		Important		Not Important			
		F	%	F	%	F	%		
1.	Land Preparation	26	43.33	30	50.00	04	6.67	142	XIV
2.	Varieties	51	85.00	09	15.00	00	0.00	171	III
3.	Method Of Planting	42	70.00	18	30.00	00	0.00	162	V
4.	Sowing Time	41	68.33	17	28.33	02	3.33	159	VII
5.	Nutrient Management	51	85.00	09	15.00	00	0.00	171	III
6.	Organic Farming	36	60.00	19	31.67	05	8.33	151	X
7.	Zero Budget Natural Farming	31	51.67	28	46.67	01	1.67	150	XI
8.	Integrated Nutrient Management	50	83.33	10	16.67	00	0.00	170	IV
9.	Micro Nutrient Management	52	86.67	08	13.33	00	0.00	172	II
10.	Integrated Pest Management	57	95.00	02	3.33	01	1.67	176	I
11.	Integrated Weed Management	29	48.33	31	51.67	00	0.00	149	XII
12.	Weed Management	42	70.00	16	26.67	02	3.33	160	VI
13.	Veterinary Pest Management	35	58.33	25	41.67	00	0.00	155	IX
14.	Farm Mechanization	25	41.67	33	55.00	02	3.33	143	XIII
15.	Summer Pulses	23	38.33	34	56.67	03	5.00	140	XV
16.	Irrigating Dry Crops	14	23.33	31	51.67	15	25.00	119	XVI
17.	Zero Tillage Management	20	33.33	19	31.67	21	35.00	119	XVI
18.	Harvest And Post Harvest Management	36	60.00	24	40.00	00	0.00	156	VIII

3.3. Constraints faced by the Village Assistants

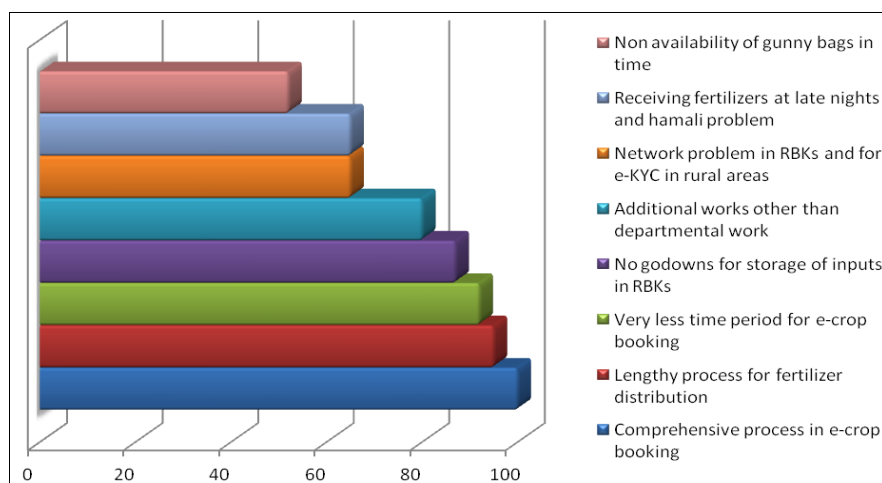
Table 3 reveals that Village Assistants faced significant constraints in digital and logistical processes, with e-crop booking cited unanimously by 100% of respondents (Rank I). The lengthy fertilizer distribution process affected 95% (Rank II), followed by very less time for e-crop booking at 92% (Rank III). No godowns for input storage in RBKs constrained 87% (Rank IV), while additional non-departmental works impacted 80% (Rank V).

Network problems for RBKs and rural e-KYC were reported by 65% (Rank VI), receiving fertilizers late at night with handling issues by 57% (Rank VII), and non-availability of gunny bags in time by 52% (Rank VIII).

These findings align with the observations of Keerthi (2025)^[5] and Sahu (2025)^[9] similarly reported that lack of storage facilities, difficulties in input distribution, network issues pose significant challenges to Agriculture Assistants.

Table 3: Constraints faced by the Village Assistants (n=60)

S. No.	Constraints faced by the Village Assistants	Yes		No		Rank
		F	%	F	%	
1	Comprehensive process in e-crop booking	60	100.00	00	00.00	I
2	Lengthy process for fertilizer distribution	57	95.00	03	05.00	II
3	Very less time period for e-crop booking	55	92.00	05	08.00	III
4	No godowns for storage of inputs in RBKs	52	87.00	08	13.00	IV
5	Additional works other than departmental work	48	80.00	12	20.00	V
6	Network problem in RBKs and for e-KYC in rural areas	39	65.00	21	35.00	VI
7	Receiving fertilizers at late nights and hamali problem	34	57.00	26	43.00	VII
8	Non availability of gunny bags in time	31	52.00	29	48.00	VIII

**Fig 1:** Constraints faced by the Village Assistants

3.4. Suggestions of the Village Assistants for smooth running of RBKs

In Table 4 Village Assistants prioritized simplifying the e-crop booking procedure into a single app, endorsed by 100% of respondents (Rank I). Streamlining fertilizer sales and distribution gained 95% support (Rank II), followed by assigning e-crop booking targets before the crop season, approved by 92% (Rank III). Providing godowns at RBKs

for input storage received 87% endorsement (Rank IV), restricting VAAs/VHAs to departmental duties alone was favored by 80% (Rank V), and high-speed internet for rural e-KYC was recommended by 65% (Rank VI)

The findings are inline with Keerthi (2025) [5] similarly mentioned the availability of storage facilities, timely supply of inputs and proper infrastructure facilities.

Table 4: Suggestions elicited by the Village Assistants (n=60)

S. No.	Suggestions	Yes		No		Rank
		F	%	F	%	
1	E-crop booking procedure should be in simplified way in single app	60	100.00	00	0.00	I
2	Sale and distribution of fertilizers should be in simplified manner	57	95.00	03	05.00	II
3	E-crop booking targets to be given before crop season or at earliest possible date	55	92.00	05	08.00	III
4	Should provide godowns in RBKs for storage of inputs	52	87.00	08	13.00	IV
5	VAAs/VHAs etc. should assign with their duties other than departmental works	48	80.00	12	20.00	V
6	To provide high speed internet in rural areas for smooth running of e-KYC	39	65.00	21	35.00	VI

4. Conclusion

The study shows the dominance of young, practically trained farmers (93% <35 years; 45% Diploma) who favor scientist-sourced, field-centric training (60% farmers' fields; 72% 1-day). With 97% exposure visit uptake, extension strategies must prioritize timely, hands-on programs to boost resilience and adoption in Andhra Pradesh-like contexts. The study highlight a clear preference for Integrated Pest Management (IPM) and Micro Nutrient Management as the top training priority while irrigation and zero tillage ranked lowest. This prioritization underscores the urgent need to refocus agricultural extension programs on pest and micronutrient interventions to address prevalent

yield losses. Extension agencies and schemes like ATMA should allocate 70-80% of resources to IPM (e.g., biopesticides, scouting) and micronutrient modules (e.g., Zn/B deficiencies), potentially boosting productivity by 20-30% and enhancing climate resilience.

The analysis of constraints and suggestions highlights persistent challenges in digital platforms like e-crop booking, fertilizer distribution logistics, input storage facilities at RBKs, and competing non-departmental duties, compounded by network issues and untimely resource availability. These bottlenecks underscore the need for streamlined digital integration, dedicated infrastructure, and workload rationalization to enhance extension service

delivery in rural areas. Extension programs should prioritize single-app solutions for e-crop processes, simplified fertilizer chains, pre-season targets, godown provisions, departmental role exclusivity, and reliable rural connectivity to boost operational efficiency and farmer outreach.

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