

IMPACT OF KVK TRAINING PROGRAMMES IN KNOWLEDGE GAIN OF ARID ZONE FARMERS

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ABSTRACT

Krishi Vigyan Kendra is conducting training programmes with felt needs and availability of resources of the arid zone farming community. Present study was conducted with sample size of 240 farmers and farm women who participated in the trainings at KVK of Jaisalmer district. The findings revealed that after participation in trainings at KVK there was overall increase (49.22%) in the knowledge level of the participants with regards to various agricultural activities where as 21.08% knowledge gaps were identified among farmers and farm women of arid zone. Particularly knowledge gaps were observed more in the subject area of farm mechanisation, entrepreneurial activities, crop production and animal production in comparison to horticulture. Hence, KVK needs to focus intensively on training programmes in accordance with farmers needs and problems to enhance arid zone farmers knowledge and skill proficiency to adopt the innovative, proven and improved practices for enhancing production and efficiency in many spheres for sustainable flow of income.

Keywords: Arid zone, Farming community, Knowledge, KVK, Training

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Krishi Vigyan Kendra (KVK) with its innovative science-based methodology for imparting improved recognised technologies to farmers, extension functionaries, through training programmes, FLD, OFT and other extension activities. KVK mandates for conducting programmes are designed around the sensed needs of the farmers, their available resources and efficacy for achieving agricultural development. The most important aim of KVK is to impart knowledge, skills on improved innovative technologies among farming community along with their experiences.

The progress can be conceptualised or depends to a large extent on the quick and effective dissemination of new technologies among the actual user and vice-a-versa feedback on problems or needed modification in particular technologies reached to research labs for their possible solution. One of the focal function of Krishi Vigyan Kendra is to offer and advance the knowledge level of the farmers about the improved farm technologies (Gupta and Verma, 2013) because knowledge is a cognitive component of an individual's mind and plays an important role in covert as well as overt behaviour. Awareness is the key to unlock the benefits of programme.

Level of awareness varies among individual and it's also decides their extent of participation and access towards benefits (Sharma and Ram Niwas, 2021). When the arid zone farmers acquire the skill with interactive

approach, they will be equipped with adequate knowledge and skill over the changed practice and encouraged to adopt the upgraded scientific practices. Follow-up actions were also been made through field visits, interaction with user farmers or trainees etc. to support the arid zone farmers in embracing of upgraded scientific practices learned through trainings. Aim of this study is to determine the impact of training programmes of KVK in transmitting knowledge to arid zone farmers on different agricultural actions.

MATERIALS AND METHODS

Arid zone area of district Jaisalmer of Rajasthan was selected for the study area and further from the list of farmers and farm women who participated in the training programme organized by KVK was randomly selected as a sample population for the study. To cover scattered sample population, randomly Three Tehsil and two blocks from each Tehsil from the Jaisalmer district were selected for analysis of wide coverage areas of KVK activities. From each block of selected three tehsils of district, 20 farmers and 20 farm women were compiled overall sample size (240). Data was collected personally through a semi-structured interview scheduled which was pre-tested. The data regarding knowledge were logged on 4-point continuum scale i.e. fully knowledge, considerable knowledge, least knowledge and no knowledge were analysed with score value of 3, 2, 1 and 0 separately. Statistical tools of mean score, correlation co-efficient and

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knowledge gap percentage were used to conclude the results.

RESULTS AND DISCUSSIONS

Arid zone farming communities' livelihood rest on animal rearing therefore, farmers have more interest towards updating their knowledge and information for animal husbandry and conventional practices of rearing dairy animals like cow, buffalo, goat and also some poultry birds in backyard system. Accordingly need based training programmes were organised by KVK on various aspects of animal husbandry. The findings of the study showed (Table 1) overall 53.31% increase in knowledge on several key aspects of animal husbandry. Overall knowledge gap of 24.93% and significant gaps in all aspects of animal production covered in the study, participants further require trainings to supplement their lacking knowledge and skills to equip themselves more competent to adopt suggested package of improved practices for fetching better income avenues. Present result in concurrence with the finding of Singh *et al.* (2014).

Analysis of data reveals that (Table 2) overall average enhances in 46.35% in the knowledge level of participants on different aspects of farm mechanisation practices. Overall recorded knowledge gap of 27.75% along with significant gaps in every aspect was observed except spraying and dusting component. Due to wage increment and labour scarcity for different farm activities the farm automation is the crucial significance in current times. KVK should focus their interventions to encourage farmers in adoption of farm implements for timely operations. Data indicates necessity of planning training programmes on soil and water conservation and maintenance of tools, land preparation, sowing in line and transplanting, drip irrigation and sprinkler irrigation, weeding, harvesting and post harvesting to increase the knowledge proficiency of participants about farm mechanisation. The similar findings were also reported by Soumya and Podikunju (2016).

Cluster bean, pearl millet, cumin, mustard, groundnut and pulses are the major crops which are prominently opt by arid zone farmers. KVK continuously organise training programmes on regular basis for updating knowledge and skills of farming community. Analysis of data shows in Table 3 that there was significant increase in knowledge level (47.99%) of the participants on different aspects of crop production. At the same time, average gap of 16.30% indicated scope to enhance the knowledge level of the participants particularly on pest and diseases management. Khadda *et al.* (2012), Gupta and Verma (2013) and Singh *et al.* (2014) further contributed similar nature of findings in their respective

study. Bio-fertilizer and bio-pesticide use, crop production and mixed farming, nursery management, line sowing and transplanting, water and soil management, harvesting and post harvesting areas were further needs to be covered through training programmes.

The data presented in Table 4 depicts that overall increase of 50.63% knowledge gained on various horticultural crops practices was found but on the counterparts overall average gap of knowledge (23.66%) among the participants was observed after training programmes. Less per cent of knowledge gap was recorded comparatively on variety, water management, and nursery raising aspects of horticulture. Therefore, KVKs have to conduct different training programmes on planting material production, insect and disease management, nutrient, irrigation management and vegetable growing to enrich their knowledge further to develop proficiency. Studies conducted by Narayan (2015) and Khadda *et al.* (2015) supported more or less similar results.

Entrepreneurial activities supports additional income needs of farm families for livelihood support. To promote entrepreneurship activities, KVK conducted vocational training programmes on various subjects for generation of employment among rural youth. Data in the table-5 reveals 40.67% increase in knowledge on different occupational practices, however 27.46% knowledge gap still exists which demand more acquaintance through skill training. Such kinds of findings were also reported by Gupta and Verma (2013) and Singh *et al.* (2014) in their studies.

Presented data in Table 6 shows that the participants lacking knowledge (21.08%) on different aspects of agriculture practices against 49.22% increase in knowledge was recorded. Prominent knowledge gaps were identified in farm mechanization (29.33%), income generating activities (24.67%), horticulture practices (21.67%), crop production (13.67%) in comparison to animal production practices knowledge (09.67%).

Further analysis of socio-economic attributes influence on knowledge of participants were also been assessed to summarise the results on various aspects of farm activities. For Analysis of data, correlation coefficient statistical measures were applied which indicated in table-7 that socio-economic features of the participants have not much impact on enhancing their acquaintance level and not found significant correlation among attributes.

CONCLUSION

Based on the study it may be concluded that overall

Table 1. Gained Knowledge about animal husbandry practices (N=240)

S. No.	Knowledge	Mean Score		Increase (%)	Gap (%)
		Before	After		
1.	Up gradation of local breeds	1.12	2.10	46.67	30.00
2.	Breeds and selection criteria	1.10	2.04	46.08	32.00
3.	Feed formulation techniques	1.02	2.37	56.96	21.00
4.	Animal shed management	1.01	2.31	56.28	23.00
5.	Feed and feeding management	1.05	2.35	55.32	21.67
6.	Fodder cultivation practices	1.03	2.17	52.53	27.67
7.	Kid, chick and calf rearing	1.00	2.13	53.05	29.00
8.	Value addition of milk based products	1.02	2.39	57.32	20.33
9.	Health care practices	1.07	2.41	55.60	19.67
	Average	1.03	2.27	53.31	24.93

(Maximum obtainable score-3)

Table 2. Gained Knowledge about farm mechanization practices (N: 240)

S. No.	Knowledge	Score (Mean)		Increase (%)	Gap (%)
		Before	After		
1	Soil and water conservation	1.02	1.72	40.70	42.67
2	Line sowing and transplanting	1.01	2.19	53.88	27.00
3	Irrigation tools and techniques	1.32	2.42	45.45	19.33
4	Weeding and intercultural tools and practices	1.06	2.21	52.04	26.33
5	Insect and pest management technologies	1.10	2.43	54.73	19.00
6	Repairing and maintenance of implements	1.21	1.78	32.02	40.67
7	Land preparation technologies	1.31	2.30	43.04	23.33
8	Harvesting and post harvesting	1.17	2.29	48.91	23.67
	Average	1.15	2.1675	46.35	27.75

(Maximum obtainable score-3)

Table 3. Gained Knowledge about crop production practices

S. No.	Knowledge	Score (Mean)		Increase (%)	Gap (%)
		Before	After		
1.	Land preparation practices	1.42	2.52	43.65	16.00
2.	Treatment of seed	1.32	2.82	53.19	6.00
3.	Selection of Varieties and applications	1.21	2.46	50.81	18.00
4.	Nutrient management	1.36	2.66	48.87	11.33
5.	Sowing pattern	1.41	2.63	46.39	12.33
6.	Water and soil management	1.29	2.53	49.01	15.67
7.	Pest & disease management	1.43	2.59	44.79	13.67
8.	Harvesting and post harvesting	1.31	2.46	46.75	18.00
9.	Weed management	1.38	2.73	49.45	9.00
10.	Cropping pattern	1.21	2.10	42.38	30.00
11.	Bio-fertilizer and pesticide	1.01	2.13	52.58	29.00
	Average	1.3	2.47	47.99	16.30

(Maximum obtainable score-3)

Table 4. Gained Knowledge about horticultural crops practices (N: 240)

S. No.	Knowledge	Score (Mean)		Increase (%)	Gap (%)
		Before	After		
1.	Variety of horticultural crops	1.26	2.49	49.40	17.00
2.	Nursery raising	1.01	2.32	56.47	22.67
3.	Irrigation management	1.24	2.43	48.97	19.00
4.	Medicinal and aromatic plants	1.03	2.23	53.81	25.67
5.	Planting material production	1.06	2.08	49.04	30.67
6.	Processing and value addition	1.00	2.20	54.55	26.67
7.	Insect and disease management	1.17	2.12	44.81	29.33
8.	Management of nutrients	1.16	2.23	47.98	25.67
	Average	1.11	2.26	50.63	23.66

(Maximum obtainable score-3)

Table 5. Gained Knowledge about Income generating activities (N: 240)

S. No.	Knowledge	Score (Mean)		Increase (%)	Gap (%)
		Before	After		
1.	Goat and sheep rearing	1.61	2.76	41.67	8.00
2.	Poultry rearing	1.32	2.56	48.44	14.67
3.	Seedling raising	1.05	1.41	25.53	53.00
4.	Compost and Vermi compost	1.51	2.43	37.86	19.00
6.	Nutri Kitchen gardening	1.03	1.92	46.35	36.00
7.	Preservation and value addition	1.01	1.81	44.20	39.67
	Average	1.25	2.14	40.67	27.46

(Maximum obtainable score-3)

Table 6. Gained Knowledge extent about agricultural activities

S. No.	Knowledge	Score (Mean)		Increase (%)	Gap (%)
		Before	After		
1.	Animal husbandry	1.50	2.71	44.65	9.67
2.	Crop production	1.41	2.59	45.56	13.67
3.	Horticulture	1.02	2.35	56.60	21.67
4.	Farm mechanization	1.00	2.12	52.83	29.33
5.	Income generating activity	1.21	2.26	46.46	24.67
	Average	1.23	2.41	49.22	21.08

(Maximum obtainable score-3)

improvement in the knowledge of the arid zone farmers with respect to agricultural activities would be possible through the need based training programme had not only created awareness but also improved the knowledge of farmers pertaining to scientific agricultural practices. The examination of facts specified that KVK trainings have major influence on increasing the arid zone farmers and farm women knowledge level on different agricultural activities. More knowledge gaps were observed in the area of farm mechanisation, income generating practices, horticulture, crop production in comparison to animal husbandry practices. Socio-economic attributes have not much stimulus in increasing the knowledge level of

Table 7. Socio-economic attributes influences on knowledge (N: 240)

S. No.	Variable	Value of Correlation			Pooled
		Jaisalmer	Pokaran	Fatehgarh	
1	Age (X1)	-0.058	-0.129	-0.138	-0.108
2	Education (X2)	0.091	-0.088	0.079	0.027
3	Family type (X3)	0.057	-0.162	-0.154	-0.086
4	Family size (X4)	-0.131	0.073	-0.064	-0.041
5	Cosmo-politeness (X6)	0.029	0.061	0.049	0.046
6	Holding size (X9)	0.181	0.183*	0.191	0.186
7	Housing pattern (X8)	0.002	0.041	-0.019	0.008
8	Social participation(X5)	-0.071 -	-0.510**	-0.061	-0.061
9	Occupation (X10)	-0.062	0.058	-0.042	-0.015
7	Media exposure (X7)	0.121	-0.052	0.046	0.038
10	Annual income (X11)	-0.090*	0.084	-0.068	0.008
11	Social aptitude (X12)	-0.101	0.206**	-0.109	-0.105
12	Scientific orientation (X14)	-0.091	0.082*	-0.071*	-0.091
13	Economic aptitude(X13)	-0.203	0.294**	-0.121	-0.162

participants. Therefore, it is suggested that KVKs needs to supplement knowledge gaps identified by conducting need-based training programmes to increase the skills, knowledge and ability of arid zone farmers in various agricultural practices. Problem solving approach must be integral part of training programs and feedback mechanism must be incorporated to reduce such

knowledge gaps as well as for ensuring better transmission of research station's technologies towards its actual user.

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