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Research Article

Impact of Krishi Vigyan Kendra on transferring knowledge to tribal farmers on improved animal husbandry practices

B.S.Khadda*, Kanak Lata, Raj Kumar, S. Khajuria and A. K. Rai
ICAR-Krishi Vigyan Kendra- Panchmahals, Godhra-Vadodara Highway Vejalpur, Panchmahals, Gujarat, India
**Corresponding author e-mail: khadda74@gmail.com*
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ABSTRACT
A study was conducted on the impact of KVK interventions on transferring knowledge to tribal farmers on improved animal husbandry practices in Panchmahal district of central Gujarat, to creating awareness regarding the efficient technologies through various efficient extension tools under the banner of ICAR- KVK, Panchmahal. A random sampling technique was applied to draw the samples of 120 farmers from eight villages of Kalol and Jambughoda Tehsil of Panchmahal district. Accordingly, strategies of technological intervention were made regularly during the period of study. In adopted villages, KVK, Panchmahal organized several activities like animal health camps, training programs, advisory services, and FLDs on different aspects of animal husbandry. The results of the study revealed that the means knowledge index and mean adoption index were recorded 39.24 and 93.81 and 77.24 and 25.43 percent, respectively for pre and after interventions. The impact of KVK interventions was found to be 53.19 percent over the existing knowledge and adoption by the trained farmers which were found to be substantial over the non-benefited tribal farmers on various aspects of animal husbandry after the intervention of Krishi Vigyan Kendra, Panchmahal. Based on the study it may be concluded that the overall improvement in the knowledge of the tribal farmers with respect to the adoption of animal husbandry technologies would be possible through the demonstration of efficient technologies needed for healthy livestock rearing which had not only created awareness but also improved the knowledge and attitude of tribal farmers in relation to scientific animal husbandry practices.
Keywords: *Adoption, Animal Husbandry, Improved, KVK, Training, Knowledge.*

INTRODUCTION
To ameliorate the poor socio-economic conditions of the farmers by raising the level of farm productivity, income, and employment with the application of agricultural innovation generated at the research station, an innovative extension education institution i.e. Krishi Vigyan Kendra (KVKs) was introduced by the ICAR (Dubey et al., 2008). Krishi Vigyan Kendra (KVK) is an innovative science-based institution which functions on the collaborative participation of scientist, subject matter experts, extension functionaries, and farmers. The main purpose of KVK is to impart learning through work experience to those who are engaged in farming. The progress in any field depends to a large extent on the quick and effective dissemination of new technologies among the beneficiaries and bring back their problems to the research labs for their solution. Knowledge may be defined as those behavior and test situations, which emphasize upon memorization the remembering, either by recognition or recall of ideas. One of the main mandates of Krishi Vigyan Kendra is to provide and improve the level of knowledge of the trainees 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 behavior. Therefore the individuals with a greater technical knowledge of improved practices would lead to a high adoption possibly because knowledge is not inert. Once knowledge is acquired and retained, it undergoes and produces changes in the thinking process and of mental alchemy. This study was, therefore, conducted to ascertain the impact of animal husbandry technologies among tribal farmers as well as their prevailing level of awareness knowledge of animal husbandry technologies.

MATERIALS AND METHODS

The study was conducted under the banner of ICAR-KVK, Panchmahal. The accessible population for this descriptive study was one hundred twenty respondents. Random sampling technique was applied to draw the samples of 120 farmers from eight villages of Kalol and Jambughoda Tehsil of Panchmahal district during 2020. The data were collected through personal interview method using structural schedule. The bench mark survey data of the KVK was used as the baseline for the existing knowledge score of the farmer while the degree of impact of KVK in terms of gain in knowledge of farmers was measured with the help of schedule developed for the study purpose. Accordingly strategies of technological intervention were made regularly during the period of study. In adopted villages, KVK, Panchmahal organized several activities like as animal health camps, training programmes, advisory services and FLDs on different aspects of animal husbandry. The technological interventions were proposed to assess, refine and improve the productivity of livestock in terms of milk, meat etc. and health management. To collect the data, the respondents were individually interviewed by the investigator herself after making good rapport with them. The information regarding knowledge were recorded on scale point of fully knowledge, considerable knowledge, least knowledge and not knowledge were analyzed with score value of 3, 2, 1 and 0 respectively and in case of adoption rate was calculated with the scale point of fully adopted, partially adopted, ready to adopted and not adopted were analyzed with score value of 3, 2, 1 and 0 respectively. The collected data were subjected to basic statistical analysis as per Snedecor and Cochran (1994). The impact index was worked out with the help of following formula:-

$$\text{Impact Index} = \frac{[\text{MKI of after interventions} - \text{MKI of pre interventions}]\,[\text{MAI of after interventions} - \text{MAI pre interventions}]}{2}$$

*MKI - Mean Knowledge Index and
*MAI - Mean Adoption Index

RESULTS AND DISCUSSION

The tribal farmers have the affinity for animal component and traditional habit of rearing dairy animals like cow, buffalo, goat and also some poultry birds in backyard system. The results of the study revealed that the before and after intervention of technologies *viz.* Animal health camp, training programme, advisory service and FLDs influenced the knowledge of tribal farmers towards the knowledge and adoption of recommended improved animal husbandry production technologies.

Table 1. Knowledge and adoption indices of improved animal husbandry practices (N=120)

Improved animal husbandry practices	Knowledge Index (%)		Adoption Index (%)	
	Pre-intervention	After intervention	Pre-intervention	After intervention
Breeds and selection criteria	41.67	83.67	25.33	55.67
Up gradation of local breeds	45.67	100.00	40.00	100
Heat detection	40.67	100.00	35.67	100
Housing and general management	40.00	92.33	10.33	55.33
Balance ration feeding	32.67	93.67	17.67	56.00
Mineral mixture feeding	25.33	100.00	15.33	85.33
Common salt feeding	36.67	100.00	22.33	89.00
Formulation and preparation of balance ration	28.67	85.33	10.00	43.67
Kid/ calf rearing	52.67	85.67	37.00	74.67
Treatment of repeat breeder	45.67	93.33	26.00	85.67
Vaccination	40.67	96.33	32.33	93.67
Deworming	40.33	100.00	31.33	92.67
Green fodder production round the year	52.67	86.67	33.00	70.00
Clean and quality milk production	26.00	96.33	19.67	79.67
Mean Index	39.24	93.81	25.43	77.24

Table 2. Impact of KVK on transferring knowledge and adoption of improved animal husbandry practices (N=120)

Particulars	Pre-intervention	After intervention	Difference
Mean Knowledge Index	39.24	93.81	54.57
Mean Adoption Index	25.43	77.24	51.81
Total	64.67	171.05	106.38

$$\text{Percentage of Impact} = \frac{\text{Sum of differences of indices}}{2} = 53.19$$

Knowledge level of respondents:

Analysis of data revealed that the average means knowledge index pre and after interventions was recorded 39.24 and 93.81 per cent, respectively. The data of the study revealed that the tribal farmers of the study area had very less knowledge about scientific animal husbandry practices before intervention (Table

1). The results of study revealed that the all farmers had knowledge on the varies improved animal husbandry practices namely, up gradation of local breeds, heat detection, mineral mixture feeding, common salt feeding and deworming of their animal, whereas the corresponding knowledge level for the same practices for the farmers before intervention of KVK, Panchmahal were 45.67, 40.67, 25.33, 36.67 and 40.33 per cent, respectively. The overall 139.07 % increase in the knowledge on various aspects of improved animal husbandry practices after intervention of Krishi Vigyan Kendra, Panchmahal. More or less similar results were also reported by Khadda *et al.* (2012), Gupta and Verma (2013), Singh *et al.* (2014), Narayan (2015) Khadda *et al.* (2015) and Soumya and Podikunju (2016).

Adoption level of respondents regarding improved animal husbandry practices:

The results of present study revealed that the mean adoption index was found to be greater (77.24 %) for the benefited farmers after intervention of KVK, Panchmahal as compared to the same farmers before interventions (25.43 per cent). The tribal farmers had adopted the improved animal husbandry practices namely up gradation of local breeds, heat detection(100 %) followed by vaccination (93.67 %), deworming (92.67 %), common salt feeding (89.00 %), treatment of repeat breeder (85.67 %), mineral mixture feeding (85.33 %), clean and quality milk production (79.69 %), kid/ calf rearing (74.67 %), green fodder production round the year (70.00 %), balance ration feeding (56.00 %), breeds and selection criteria (55.67%), housing and general management (55.33%) and formulation and preparation of balance ration (43.67%). More or less similar results were also reported by Gupta and Verma (2013), Singh *et al.* (2014), Narayan (2015) Khadda *et al.* (2015) and Soumya and Podikunju (2016).

Impact on knowledge and adoption regarding improved animal husbandry practices:

The impact of interventions imparted by the KVK as a whole was computed as the sum total of the differences of both the indices namely, Mean Knowledge Index (MKI) and Mean Adoption Index (MAI) divided by two. The data related to impact on knowledge and adoptions regarding improved animal husbandry practices have been presented in table 2. The data presented in table 2 exposed that the mean knowledge index and mean adoption index were found to be 93.81 and 77.24 per cent, respectively for the trained farmers after interventions, whereas for the same farmers before interventions the mean knowledge index and mean adoption index was found to be 39.24 and 25.43 per cent, respectively. It clearly showed that the trained farmers had greater knowledge and adoption levels compared to the non-trained farmers. The study also observed that the impact of KVK interventions was found to be 53.19 per cent over the existing knowledge and adoption by the trained farmers which were found to be substantial over the non-benefited tribal farmers. The similar results were also reported Soumya and Podikunju (2016). Therefore it could be confirmed that there was a remarkable impact of KVK, Panchmahal on those respondents who attended/ benefited through different programmes conducted with special references to of knowledge and adoption of improved animal husbandry practices. The respondents need to be further expected through training programme, animal health camp, advisory service, diagnostic visit, FLDs, etc. to equip sufficiently with knowledge and skill enabling to adopt the recommended practices for better income.

CONCLUSION

Based on the study it may be concluded that the overall improvement in the knowledge of the tribal farmers with respect to adoption of animal husbandry technologies would be possible through the demonstration of efficient technologies needed for healthy livestock rearing which had not only created awareness but also improved the knowledge and attitude of tribal farmers in relation to scientific animal husbandry practices. The knowledge regarding the available viable animal husbandry is essentially required to improve the productivity of livestock as well as socio-economic condition of the resource poor tribal farmers.

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