Asian Journal of Agricultural Extension, Economics & Sociology

39(11): 114-122, 2021; Article no.AJAEES.74917
ISSN: 2320-7027

Attitude of Sericulture Beneficiary Farmers towards the Activities of Technical Service Centres (TSCs) in Karnataka State of India

N. Harisha[1*], B. Mukunda Rao[2], T. Gopi Krishna[2], K. Uma Devi[2] and S. K. Nafeez Umar[3]

[1]Department of Agricultural Extension, SKCAS, Anantapauram-515002, India.
[2]ANGRAU, Lam, Guntur, India.
[3]Department of Statistics and Computer Applications, S.V Agricultural College, Tirupati, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJAEES/2021/v39i1130731
Editor(s):
(1) Dr. Wang Guangjun, Chinese Academy of Fishery Sciences, China.
Reviewers:
(1) S. Hemalatha, Tamil Nadu Agricultural University, India.
(2) Francisco Pescio, Universidad de Buenos Aires, Argentina.
Complete Peer review History: https://www.sdiarticle4.com/review-history/74917

Original Research Article

Received 04 August 2021
Accepted 08 October 2021
Published 21 October 2021

ABSTRACT

Sericulture in Karnataka is in the process of modernization in many phases through new demand driven extension approach called Technical Service Centres (TSCs) located at the grass-root level (Hobli and Taluka level). These centres mainly involved in the dissemination of the technologies developed by the Research Institutes and also in supply of mulberry cuttings/saplings, monitoring mulberry cultivation, silkworm rearing and providing information about loan facilities and subsidy schemes. There is a need to study the attitude of sericulture beneficiary farmers towards activities of TSCs. The study was conducted during 2018-20 in the Karnataka state of India. The Karnataka state was contributing 35.00 per cent of silk production in India. An ex-post facto research design was used or the study. An attitude was measured by Likert scale construction. The Ramanagara and Mandya districts were selected because these district having highest number of TSCs in Bangalore and Mysore division respectively. Mandya, Malavalli and K.R Pet taluks from Mandya district on the other hand Ramanagara, Channapatna and Kanakapura taluks from Ramanagara

**Corresponding author: E-mail: harishnmuni@gmail.com;*

district were purposively selected for the study. Above taluks were selected based on top 3 taluks in TSCs in district. The four TSCs from each taluk leads to twelve from each district, Totally, 24 TSCs were selected for the study. Ten sericulture farmers under each TSC, collectively 240, were selected by using random sampling method. The study revealed that just little more than half (50.42%) of the sericulture farmers had medium favourable attitude towards activities of TSCs followed by high favourable attitude (35.00%) and only 14.58 per cent of the sericulture farmers had low favourable attitude. The probable reason might be majority of the sericulture farmers participated in trainings at Sericulture Training Institute at K.R Pet of Mandya District and Channapatna of Ramanagara district and also they were undergone for study tour to Kolar district. They were supplied subsidized mulberry saplings, bed disinfectants, growth promoters among sericulture farmers.

Keywords: Sericulture; attitude; beneficiary farmer.

1. INTRODUCTION

Sericulture is an agro-based, labour intensive, export oriented commercial activity. Sericulture which was considered as a subsidiary occupation in the past is now being considered as major activity and farmers are willing to take-up large-scale sericulture. It provides an ideal livelihood opportunity for millions of women without disturbing their household work. Silkworm rearing can generate regular employment for 12-13 persons per ha with low investment and a short gestation period of six months.

In 2018-19, under global scenario, China is the leading silk producer (1,20,000 MT) followed by India (35,461 MT), Uzbekistan (1,800 MT), Thailand (680 MT), Vietnam (680 MT), Brazil (650 MT), North Korea (350 MT) and Turkey (30 MT). The major silk consumers of the world are United States of America (USA), Italy, Japan, India, France, China, United Kingdom, Switzerland, Germany, United Arab Emirates (UAE), Korea, Vietnam, etc [1].

Sericulture in Karnataka is in the process of modernization in many phases. The present pattern of structure and functioning of the Karnataka State Department of Sericulture (KSDS) have some lacuna in the existing strategies particularly in relating to the large section of farmers. The major constraint for many of the farmers was to visit the Assistant Director of Sericulture and Joint Director of Sericulture offices which are located at taluk and district level with a radius of 25 to 50 km and during these visits; they hardly get information on farm technologies as the directors are pre occupied with activities other than dissemination of needy information related to sericulture among farmers.

In view of the aforementioned gaps, the Government of Karnataka and department of sericulture started a new demand driven extension approach called Technical Service Centres (TSCs) in the year 2005-06 at the grass-root level (Hobli and Taluka level). There are 246 Technical Service Centres established in the state to perform the extension task. Each TSC is headed by one Sericulture Extension Officer and having two sericulture demonstrators for execution of extension activities at grass root level. These centres mainly involved in the dissemination of the technologies developed by the Research Institutes and also in supply of mulberry cuttings/saplings, monitoring mulberry cultivation, silkworm rearing and providing information about loan facilities and subsidy schemes. They are also involved in distribution of extension services among sericulture farmers under Karnataka Sericulture Project, RKVY and PM Kisan Sinchayi Yojana. In addition to this, Technical Service Centres are also involved in crop- inspection, disinfection of rearing houses to control the silkworm diseases, conducting group discussions, field days, workshops, study tours, state level seminars, conducting training camps to men and women sericulture farmers. The extension officers and staff working in seed areas have the responsibility of inspecting the seed crops thoroughly and certifying the disease freeness of the crops in the field.

The present demand driven system of extension service success ultimately depends on the effectiveness of extension delivery mechanism i.e.; the adequacy of the staff, timeliness information and input support to the farmers. Sericulture is the main source of income for 1, 25, 545 farmers in Karnataka. There is a scope for extension system to diffuse the sericulture technologies to the non-sericulture growing areas and to become agriculture as a profitable sector and none of the research studies were conducted on sericulture extension system (Technical Service Centres). Therefore, attitude

of sericulture beneficiary farmers studied with following objective.

1. To study the attitude of sericulture beneficiary farmers towards activities of Technical Service Centres (TSCs)

2. REVIEW OF LITERATURE

Islam and Rashid [2] revealed that nearly three fourth (73.70%) of the respondents had moderately favorable attitude followed by high favorable attitude (20.30%) and only 06.00 per cent had low favorable attitude and towards e-Agriculture.

Aromolaran et al. [3] conducted a study on "Attitudes of farmers to extension trainings in Nigeria: implications for adoption of improved agricultural technologies in Ogun state Southwest region" showed that 62.50 per cent of the farmers had unfavourable attitude followed by only a few (37.50%) of the farmers had a favourable attitude towards extension training.

Patel et al. [4] revealed that majority (90.00%) of the trainees had medium to high level of attitude towards training programme conducted by KVK, Devataj.

Sahare et al. [5] in their research article on "Attitude of the trained farmers towards the trainings conducted by Krishi Vigyan Kendras of Shahdol division (M.P.), India" indicated that that the farmers had most favourable attitude towards training methodology and least favourable attitude towards the physical facilities provided to trainees during training programmes.

Dobariya et al. [6] in their research article on "Attitude of beneficiary farmers towards activities of Krishi Vigyan Kendra of Dang district" observed that majority (70.00%) of beneficiary farmers and more than half ((57.00%) of non beneficiary farmers had favourable attitude toward KVK activities.

Kumar et al. [7] in their research article on "Socio-economic status and prospects of sericulture in tribal region of Sarguja (C.G.), India" found that most of the respondents have positive attitude towards sericulture and nearly two third (65.00%) respondents expressed more favourable attitude while more than one third (35.00%) respondents expressed moderately favourable attitude towards sericulture.

3. MATERIALS AND METHODS

The study was conducted during 2018-20 in the Karnataka state of India. The Karnataka state was contributing 35.00 per cent of silk production in India. The Ramanagara and Mandya districts were selected because these district having highest number of TSCs in Bangalore and Mysore division respectively. Mandya, Malavalli and K.R Pet taluks from Mandya district on the other hand Ramanagara, Channapatna and Kanakapura taluks from Ramanagara district were purposively selected for the study. Above taluks were selected based on top 3 taluks in TSCs in district. The four TSCs from each taluk leads to twelve from each district, Totally, 24 TSCs were selected for the study. Ten sericulture farmers under each TSC, collectively 240, were selected by using random sampling method. A well structured interview schedule was used for data collection. The statistical tools like frequency, percentage, mean, standard deviation were used for data analysis.

Attitude is operationally defined as positive or negative responses about working of TSCs by the sericulture beneficiaries.

The attitude of the sericulture farmer towards functioning of TSCs was measured by the attitude scale especially constructed to meet the objectives. Attitude in the present study as defined by Likert [8] is "the best technique available for investigating the attitude of the individual about some psychological object on the psychological continuum."

Scale Construction for Measuring the Attitude of Sericulture Beneficiary Farmers towards the Activities of Technical Service Centres (TSCs). The Likert attitude scale was prepared for the study. Total of 60 statements were prepared, which represent attitude of sericulture beneficiary farmers towards activities of TSCs. Finally 54 statements were selected after editing. The relevancy of statements done by 52 judges out of 105 judges including Sericulture experts, Professors and KVK's SMS, Accordingly, statements having relevancy percentage >75, relevancy weightage >0.70 and mean relevancy score >2.5 were considered for final selection of statements.

Hence, 40 statements were selected after scrutiny. The 40 statements representing the attitude towards functioning of TSCs were administered to 100 sericulture farmers in non-sample area with five continuum containing

Strongly agree, Agree, Undecided, Disagree and Strongly disagree with the scoring pattern 5, 4, 3, 2 and 1 respectively for positive statements and reverse for negative statements. After computing the t-value for the statements, the thumb rule of rejecting items with 't' value less than 1.75 was followed. Thus, the statements having the highest t-values were selected. Thus, a total of 21 statements were selected. The Rulons reliability coefficient (r_{tt}) value is 0.86, which explains about 86.00 per cent of scale accuracy.

The score obtained for each statement was summed up to arrive at the attitude score for that respondent. The score ranged from 105 (maximum) to 21 (minimum). The responses were grouped as less favourable, medium favourable and highly favourable based on the mean and standard deviation.

S. No.	Categorisation	Score
1	Less favourable attitude	Less than (Mean - SD)
2	Medium favourable attitude	Between (Mean ± SD)
3	High favourable attitude	More than (Mean +SD)

4. RESULTS AND DISCUSSION

4.1 Attitude of Sericulture Beneficiary Farmers towards The Activities of TSCs

It could be observed from Table 1 and Fig. 1 found that just little more than half (50.42%) of the sericulture farmers had medium favourable attitude towards activities of TSCs followed by high favourable attitude (35.00%) and only 14.58 per cent of the sericulture farmers had low favourable attitude.

The above results inferred that sericulture farmers had medium attitude towards activities of TSCs. The probable reason might be due at initial years of establishment, TSCs were created significant attitude among sericulture farmers through their extension activities such as crop-inspection, consultancy services, conducting group discussions, field days, study tours, *etc.* The majority of the sericulture farmers participated in trainings at Sericulture Training Institute at K.R Pet of Mandya District and Channapatna of Ramanagara district and also they were undergone for study tour to Kolar district. They were supplied subsidized mulberry saplings, bed disinfectants, growth promoters among sericulture farmers. TSCs provided subsidies to rearing house (70% -General, 90%-SC/ST) and Kisan Nursery (70% -General, 90%-SC/ST), bio fertilizers (50% to all) etc. They were also provided support price to cocoon (Rs. 40/Kg of multivoltine, Rs. 50/Kg of Bivoltine). The TSC extension functionaries were organized exposure visits to Ramanagara and Shidlaghatta Cocoon market to motivate and convince sericulture farmers to sell their cocoons through e-trading. But in recent years, TSC extension functionaries gave preference to bivoltine silkworm rear farmers to increase the production and productivity of bivoltine cocoons, which is more economical than multivoltine cocoons. Apart from above reasons, sericulture farmers had medium information consultancy, high scientific orientation, high risk orientation and medium experience in sericulture. The results were in line with the findings of Pandhare et al. [9] Ruchira and Sharma [10] and Kumar et al. [7].

4.2 Item Analysis of Sericulture Farmer According to Attitude of Sericulture Beneficiary Farmers towards the Activities of Tscs

Table 2 reported that most (87.09%) of the sericulture farmers had favourable attitude about 'GPS adopted by TSCs identify real beneficiary of sericulture' followed by mechanization in sericulture recommended by TSC's reducing the cost of cultivation (85.42%), TSCs are working towards improving of farm income of sericulture (82.08%), TSC is play an incredible role to encourage the farmers to take up sericulture as a main occupation (81.67%), TSC's facilitates for improving the marketing behaviour by providing timely marketing information (79.16%), digital transfer of subsidy amount by the TSC's to the farmers account is a novel method to reduce the misuse of funds (77.50%), the single window system adopted in TSC's is able to provide all goods and services at one shop (77.50%), TSCs are farmers welfare oriented extension reform (77.09%), drip irrigation in mulberry supported by TSC's helps in improving resource use efficiency (76.25%), campaigns of TSC's are useful in disseminating information to large number of sericulture farmers in short time (74.58%) and extension officials of TSC's are technically sound in running activities of TSC (73.76%). Table 4.23. also found that majority (70.84%) of the sericulture farmers had favourable attitude towards the statement of 'Trench method of

mulberry planting supported by TSC's improves water use efficiency' succeeded by 'Regular rapport with TSCs facilitates for improvement of leadership quality in society' (70.41%), Kisan Melas and Exhibitions are organized by TSC's, are useful to enrich the knowledge on sericulture technologies (68.33%) and finally more than half (51.67%) of the sericulture farmers had favourable attitude about agripreneurship is possible through TSCs for making agriculture as an agri business (51.67%).

It could be inferred from Table 2 that, more than two third (70.83%) of the sericulture farmers had unfavourable attitude towards the statement of 'TSCs should work more in non traditional area rather than traditional sericulture area' followed by market information disseminated by the TSCs is not useful for getting remunerative prices for cocoons (68.75%), organic method of mulberry cultivation recommended by TSCs is not profitable (68.33%), The programme implemented by TSCs is not need based leading to loss of credibility among beneficiaries (65.83%) and Information transmitted by TSC's through mobile SMS services is highly effective (62.95%).

The probable reason might be due to fact that TSC officials were technically sound and skilful, helped in transfer of scientific technologies and disseminate real time information among sericulture farmers. The extension activities like consultancy services, demonstrations, field trips, trainings etc which were organized by TSC officials for capacity building of sericulture farmers. TSC officials mainly involved in distribution of extension services like subsidy under sericulture development programmes, support price, disinfects, power sprayers etc to the needy farmers without bias. The sericulture farmers were also maintained regular rapport with TSC officials and they seek information on scientific technologies. The many rural youths were attracted towards sericulture by the efforts of TSCs. All the extension efforts of TSCs helped to improve farmers income of sericulture farmers. Therefore, above reasons might be causes for favourable attitude towards TSC activities.

Table 1. Distribution of sericulture farmer according to their attitude towards the activities of TSCs (n=240)

S. No.	Categorization	Frequency	Percentage
1	Low favourable attitude(≤77.42)	35	14.58
2	Medium favourable attitude (77.43- 90.10)	121	50.42
3	High favourable attitude (≥90.11)	84	35.00
	Total	240	100.00
	Mean= 83.78		**SD = 6.36**

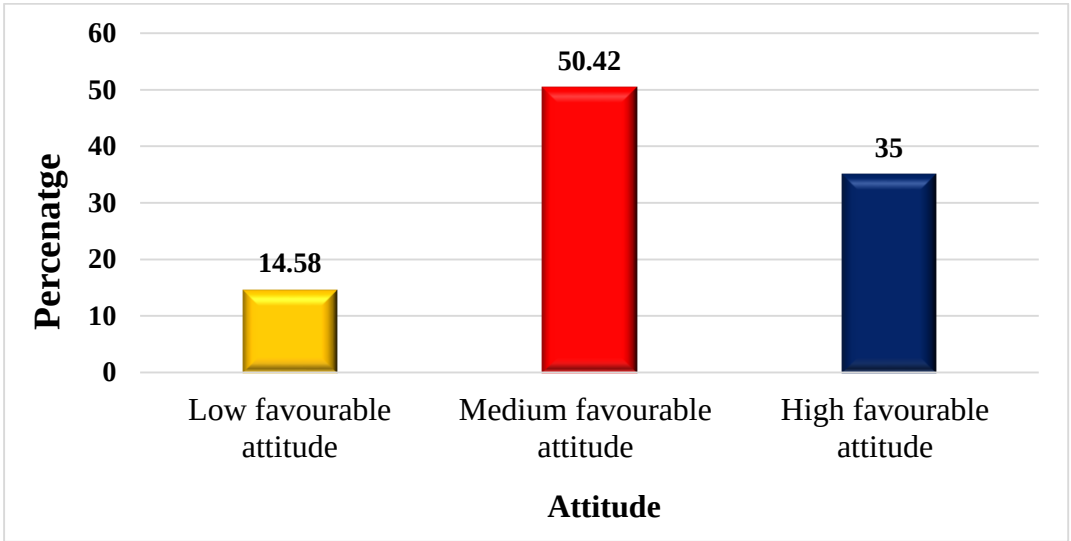

Fig. 1. Distribution of sericulture beneficiary farmers according to their attitude of towards the activities of TSCs

Table 2. Item analysis of attitude of sericulture beneficiary farmers towards the activities of TSCs (n=240)

S. No	Statements	Favourable Attitude			Neutral	Unfavourable Attitude		
		SA	A	Total	UD	DA	SDA	Total
1	The criteria for selecting the farmers to distribution of subsidized inputs by TSC is appropriate	28 (11.67)	19 (7.91)	47 (19.58)	69 28.75	104 (43.33)	20 (8.34)	124 (51.67)
2	TSC is play an incredible role in encourage the farmers to take up sericulture as a main occupation	88 (36.67)	108 (45.00)	196 (81.67)	36 (15.00)	7 (2.92)	1 (0.41)	8 (3.33)
3	Digital transfer of subsidy amount by the TSC's to the farmers account is a novel method to reduce the misuse of funds.	73 (30.42)	113 (47.08)	186 (77.50)	49 (20.42)	5 (2.08)	0 (0.00)	5 (2.08)
4	TSC's facilitates for improving the marketing behaviour by providing timely marketing information.	77 (32.08)	113 (47.08)	190 (79.16)	43 (17.93)	7 (2.91)	0 (0.00)	7 (2.91)
5	Mechanization in Sericulture recommended by TSC's reducing the cost of cultivation.	45 (18.75)	160 (66.67)	207 (85.42)	27 (11.25)	8 (3.33)	0 (0.00)	8 (3.33)
6	Drip irrigation in mulberry supported by TSC's helps in improving resource use efficiency.	64 (26.67)	119 (49.58)	183 (76.25)	43 (17.92)	14 (5.83)	0 (0.00)	14 (5.83)
7	GPS adopted by TSCs identify real beneficiary of sericulture.	172 (71.67)	37 (15.42)	209 (87.09)	18 (7.50)	12 (5.00)	1 (0.41)	13 (5.41)
8	*Market information disseminated by the TSCs is not useful for getting remunerative prices for cocoons.	12 (5.00)	24 (10.00)	36 (15.00)	39 (16.25)	105 (43.75)	60 (25.00)	165 (68.75)

9	Regular rapport with TSCs facilitates for improvement of leadership quality in society.	115 (47.91)	54 (22.50)	172 (70.41)	66 (27.51)	4 (1.67)	1 (0.41)	5 (2.08)
10	Trench method of mulberry planting supported by TSC's improves water use efficiency.	37 (15.42)	133 (55.42)	170 (70.84)	55 (22.91)	15 (6.25)	0 (0.00)	15 (6.25)
11	The Single window system adopted in TSC's is able to provide all goods and services at one shop.	85 (35.41)	101 (42.09)	186 (77.50)	38 (15.83)	16 (6.67)	0 (0.00)	16 (6.67)
12	Campaigns of TSC's are useful in disseminating information to large number of sericulture farmers in short time.	64 (26.67)	115 (47.91)	179 (74.58)	47 (19.59)	14 (5.83)	0 (0.00)	14 (5.83)
13	Kisan Mela and exhibition are organized by TSC's, are useful to enrich the knowledge on sericulture technologies.	71 (29.58)	93 (38.75)	164 (68.33)	64 (26.67)	9 (3.75)	3 (1.25)	12 (5.00)
14	Information transmitted by TSC's through mobile SMS services is highly effective.	25 (10.41)	34 (14.17)	59 (24.58)	30 (12.50)	91 (37.92)	60 (25.00)	151 (62.92)
15	TSCs are working towards improving of farm income of sericulture farmers.	90 (37.50)	107 (44.58)	197 (82.08)	39 (16.25)	4 (1.67)	0 (0.00)	4 (1.67)
16	Extension officials of TSC's are technically sound in running activities of TSC.	152 (63.33)	25 (10.43)	177 (73.76)	58 (24.16)	3 (1.25)	2 (0.83)	5 (2.08)
17	Agripreneurship is possible through TSCs for making agriculture as an agri business.	36 (15.00)	88 (36.67)	124 (51.67)	52 (21.67)	40 (16.66)	24 (10.00)	64 (26.66)
18	*TSCs should work more in non traditional area rather than traditional sericulture area.	10 (4.17)	25 (10.42)	35 (14.59)	35 (14.58)	128 (53.33)	42 (17.50)	170 (70.83)
19	TSCs are farmers welfare oriented extension reform.	55 (22.92)	130 (54.17)	185 (77.09)	42 (17.50)	12 (5.00)	1 (0.41)	13 (5.41)

20	*Organic method of mulberry cultivation recommended by TSCs is not profitable.	12 (5.00)	25 (10.41)	37 (15.42)	39 (16.25)	57 (23.75)	107 (44.58)	164 (68.33)
21	*The programme implemented by TSCs is not need based leading to loss of credibility among beneficiaries.	15 (6.25)	29 (12.08)	44 (18.33)	38 (15.83)	105 (43.75)	53 (22.09)	158 (65.83)

SA=Strongly Agree, A=Agree, UD=Undecided, DA=Disagree, SDA=Strongly Disagree
F=Frequency,%=Percentage
** Negative Statements*

TSC officials were faced difficulties in-non traditional sericulture area to convince the farmers to take up sericulture as occupation compared to traditional area because sericulture is skilful activity and it extremely depends on weather conditions for mulberry cultivation and silkworm rearing and requires more experience grow successful silkworm crops. The sericulture farmers were motivated from TSC officials to use more of FYM, green manuring and leaf manuring through trench and mulch method of mulberry cultivation which helps to improve quality mulberry as well as cocoons.

5. CONCLUSION

The study highlighted that majority of the sericulture farmers had medium favourable attitude towards activities of TSCs. Therefore, Karnataka State Department of Sericulture impart refresher trainings to Sericulture Extension Officer of TSCs and demonstrators to improve the efficacy of extension work. TSC official need to maintain transparency in selection of farmers to distribute extension services like subsidy amount, support price, consultancy services, power sprayers etc to all farmers without bias and it improves credibility and good rapport among farmers. However, sericulture farmers might have change medium favourable attitude to high favourable attitude towards activities of TSCs due to extension efforts of TSCs.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. International Sericultural Commission. Statistics; 2020. http://www.inserco.org/en/statistics
2. Islam MR, Rashid RS. Farmers' attitude towards e-Agriculture in Bangladesh. American Journal of Social and Management Sciences. 2016;7(1):12-18.
3. Aromolaran A, Kazeem Akerele D, Oyekunle O, Sotola E, Abiodun, Taiwo LK. Attitudes of farmers to extension trainings in Nigeria: Implications for adoption of improved agricultural technologies in Ogun state South-West region. Journal of Agricultural Sciences. 2017; 62(4):423-443.
4. Patel HB, Patel PC, Patel GG. Attitude of the farmers towards training programme organized by KVK Devataj. Gujarath. Journal of Extension. Education. 2017; 28(1):68-70.
5. Sahare K, Gupta AK, Singh S, Tiwari BK, Dharmendra. Attitude of the trained farmers towards the trainings conducted by Krishi Vigyan Kendras of Shahdol division (M.P.), India. Plant Archives. 2017;17(1):99-102.
6. Dobariya JB, Thesiya NM, Bambhrolia RP. Attitude of beneficiary farmers towards activities of Krishi Vigyan Kendra of Dang district. Journal of Krishi Vigyan. 2018; 7(1):39-43.
7. Kumar V, Jhariya MK, Yadav DK. Socio-economic status and prospects of sericulture in tribal region of Sarguja (C.G.), India. Bulletin of Environment, Pharmacology and Life Sciences. 2018;7(4):108-113.
8. Likert RA. A Technique for the Measurement of Attitude Scales, Psychol, New York, No. 1932;140.
9. Pandhare SP, Nadre KR, Deshmukh RS, Bhosal PB. Attitude towards Krishi Vigyan Kendra. Agriculture Update. 2012;7(1&2):58-62.
10. Ruchira, Sharma. A study on attitude of farmers towards mulberry sericulture in Udaipur district of Rajasthan. Agricultural Science Digest. 2011;31(1):66-69.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/74917