

Attitude of Farmers towards Mixed Farming

V. T. Onima¹, N. B. Chauhan² and Krunal D. Gulkari³

ABSTRACT

The mixed farming through combination of crop production and their complementary livestock enterprises certainly create great potential of farms, establishing a complementary relationship between crop and livestock enterprises. To develop agriculture as a whole, economic condition of farmers is one of the important issues to analyze in popularizing use of mixed farming for agricultural development; there is a need to understand existing perception of the farmers towards relevance of mixed farming. As attitude assist individuals in processing complex information and to make decisions, an instrument has been developed to measure attitude of farmers towards mixed farming, for which "Scale Product Method" which combines the Thurston's Equal Appearing Interval Scale (1928) for selection of the items and Likert's Summated Rating Scale (1932) for ascertaining the response on the scale, was followed. The study was conducted on a random sample of 50 mixed farming adopters selected from ten villages of Anand taluka, of Anand district. It was observed that majority (90.00 %) of the farmers had positive attitude towards mixed farming. The positivism towards mixed farming was observed uniformly amongst the farmers with irrespective level of their age, education, farming experience, farm size, herd size, social participation, mass media exposure, extension contact, economic motivation and achievement orientation, while it was observed highly positive amongst the farmers with high level of scientific orientation.

Keywords: Attitude, Mixed Farming, Farmers, Adopters, Anand

INTRODUCTION

Mixed farming systems are the backbone of almost all the Asian countries. Mixed farming is the combination of two independent agricultural enterprises on the same farm. A typical case of mixed farming is the combination of crop enterprise with dairy farming or in more general terms, crop cultivation with livestock farming on the same farm. Mixed farming may be treated as a special case of diversified farming (Sadhu *et al.*, 1993). Agricultural economists consider that a farm to be called as a mixed farm, 10 per cent -15 per cent of its gross income must be contributed by livestock components (Sastry *et al.*, 1994).

In India farms are depending on animals for their farming activities and rearing milch animals is the part of the agriculture; and also major source of income to the small and marginal farmers. The integration of crop and livestock production is a factor which strongly influences the sustainability of a farm. Thus mixed farming system combining crop production and milch animal is apparently befitting to our agrarian economy. In this

context, subsidiary occupations like rearing of livestock in combination with different crops become a necessity for the farmers to make the maximum use of their limited resources and labour capacity in order to supplement their present income.

The technical and practical knowledge, skill and positive attitude towards technology are the prerequisites to adopt any type of technology in farming. It is therefore, always important to find out the present status of farmers' attitude and factors responsible in forming attitude towards mixed farming. Thus, present study measures the attitude of farmers towards mixed farming and find out relationship between attitude of farmers towards mixed farming and their profile. However, no systematic, valid and reliable scale to measure attitude of the farmers towards mixed farming was available hence the scale was constructed. To understand positivism towards mixed farming, the study was conducted and attitude of farmers towards mixed farming was measured with the help of reliable and valid scale developed by the researcher.

¹Department of Extension Education, Navsari Agricultural University, Navsari, Gujarat, India ²Department of Extension Education, Anand Agricultural University, Anand, India, ³College of Agriculture, Anand Agricultural University, Anand, India

METHODOLOGY

The present study was carried out in Anand taluka of Anand district of Central Gujarat. From the selected Anand taluka, ten villages *viz.*, Adas, Boriavi, Kasor, Khambholaj, Lambhvel, Mogri, Ode, Rasnol, Sarsa and Vadod having maximum number of mixed farming adopter farmers were selected randomly. Five farmers who adopted mixed farming were selected randomly from each selected village. Thus, by multi stage sampling technique, a random sample of 50 farmers who adopted mixed farming was selected for the study. For construction of scale to measure attitude of farmers towards mixed farming "Scale Product Method" which combines the Thurstone's technique of equal appearing interval scale for selection of the items and Likert's technique of summated rating for ascertaining the response on the scale as proposed by Eysenck and Crown, 1949 was followed.

As a first step in the developing the scale, 36 statements about mixed farming collected from the relevant literature, articles published on significance media and extension personals. The statements, thus selected were edited on the basis of the suggested criteria. In order to judge the degree of "Unfavorableness" to "Favorableness" of each statements on the five point equal appearing interval continuum a panel of 50 judges was selected. The judges selected for the study comprised extension educationists, extension personals, statisticians and agronomists with considerable practical experience either as trainer, extension educationists or working experience related to extension work of the Anand Agricultural University.

The five points of the rating scale were assigned, ranging from 1 for most unfavourable and 5 for most favourable. On the base of judgment, the median value of the distribution and the Q value for the statement concerned was calculated, the inter-quartile range ($Q = Q3 - Q1$) for each statement was also worked out for determination of ambiguity involved in the statement.

Based on the median and Q values 12 statements were finally selected to constitute attitude scale. The scale values were ranging from 01.20 to 04.20 with 0.5 class intervals. The 12 statements were divided into two halves with six odd numbered in one half and other six even numbered statements in the other. These were administered to 25 respondents. Each of the two sets of statements was treated as a separate scale and then these two sub-scales were correlated. The coefficient of reliability was calculated by the Rulon's formula

(Guilford, 1954), which came to 0.79. The validity of the scale examined for content validity by determining how well content were selected by discussion with specialists, extension academicians etc. thus, present scale satisfied the content validity.

The reliable and valid attitude scale developed with 12 statements was administered on the selected sample farmers and the responses were collected in five continuum *viz.*, strongly agree, agree, undecided, disagree and strongly disagree with respective weights of 5, 4, 3, 2 and 1 for the favourable statements and reverse scoring for negative statements. The total attitude score for each respondent was obtained by adding all scores of their responses of all the statements.

RESULT AND DISCUSSION

Attitude of the farmers towards mixed farming

There are total 12 statements in this scale. The statement wise responses were collected and presented in Table 1. It can be seen that 96.00 per cent of the mixed farming adopter farmers were either strongly agreed or agreed with the statement that mixed farming is valuable concept to gain higher income by mixing crop production and livestock enterprise. It can be seen that majority (78.00 %) of mixed farming adopter farmers were either disagreed or strongly disagreed with the feeling to avoid advising anyone to adopt mixed farming. It was observed that 92.00 per cent of the mixed farming adopter farmers felt that mixed farming makes best use of crop residues. The result indicates that 52.00 per cent of the farmers disagreed or strongly disagreed with the view that they prefer simple crop production to mixed farming. It was experiential that 94.00 per cent of the farmers felt that mixed farming ensures assured income for a farmer.

The result of the table also indicates that 50.00 per cent of the respondents agreed or strongly agreed with the statement that scopes of mixed farming are limited. The outcome of study says that 96.00 per cent of the farmers believed that mixed farming is beneficial as it reduces reliance on agro-chemicals. It can be seen that nearly equal per cent of mixed farming adopter farmers (48.00 per cent) agreed or strongly agreed with the statement that mixed farming is practically difficult to adopt and 44.00 per cent of the respondents did not agree to this statement.

It was studied that 82.00 per cent of the mixed farming adopter farmers believed or strongly believed that mixed farming gives opportunity to survive in adverse weather conditions. It is realized that 54.00 per cent of the mixed farming adopter farmers felt that mixed

farming is not practical approach for all the farmers. It was encouraging to understand that 92.00 per cent of the farmers felt or strongly felt that mixed farming is the most effective way to utilize family members. Finally 66.00 per cent of the respondents did not feel that mixed farming means inviting the problems.

Table 1: The respondents as per their attitude towards mixed farming n=50

Statement	SA No/%	A No/%	UD No/%	D No/%	SDA No/%
I feel that mixed farming is valuable concept to gain higher income mixing crop production and livestock enterprise. (+)	34 68.00	14 28.00	0 0.00	1 2.00	1 2.00
I avoid advising anyone to adopt mixed farming. (-)	2 4.00	4 8.00	5 10.00	21 42.00	18 36.00
I believe that mixed farming makes best use of crop residues. (+)	18 36.00	28 56.00	1 2.00	3 6.00	0 0.00
I prefer simple crop production to mixed farming. (-)	7 14.00	10 20.00	7 14.00	19 38.00	7 14.00
I believe that mixed farming ensures assured income for a farmer. (+)	30 60.00	17 34.00	2 4.00	1 2.00	0 0.00
I feel that scopes of mixed farming are limited. (-)	5 10.00	20 40.00	4 16.00	13 26.00	8 16.00
I believe that mixed farming is beneficial as it reduces reliance on agro-chemicals. (+)	25 50.00	23 46.00	0 0.00	0 0.00	2 4.00
I believe that mixed farming is practically difficult to adopt. (-)	7 14.00	17 34.00	4 8.00	12 24.00	10 20.00
I believe that mixed farming gives opportunity to survive in adverse weather conditions. (+)	22 44.00	19 38.00	3 6.00	3 6.00	3 6.00
I think mixed farming is not practical approach for all the farmers. (-)	15 30.00	12 24.00	2 4.00	11 22.00	10 20.00
I believe that mixed farming is the most effective way to utilize family members. (+)	24 48.00	22 44.00	4 8.00	0 0.00	0 0.00
I believe that mixed farming means inviting the problems. (-)	5 10.00	9 18.00	3 6.00	18 36.00	15 30.00

SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SDA = Strongly Disagree

The data given in Table 2 revealed that exactly half (50.00 %) of the mixed farming adopter farmers had positive attitude towards mixed farming, followed by 40.00 per cent of them had highly positive and 10.00 per cent of them were with neutral attitude towards mixed farming, while none of them was with negative as well as highly negative attitude towards mixed farming.

Table 2: The respondents as per their overall attitude towards mixed farming n=50

Category	Frequency	Per cent
Highly negative (up to 12 score)	00	00.00
Negative (13 to 24 scores)	00	00.00
Neutral (25 to 36 scores)	05	10.00
Positive (37 to 48 score)	25	50.00
Highly positive (above 48 score)	20	40.00
Total	50	100.00

The result of the above table indicates that majority (90.00 %) of the mixed farming adopter farmers had positive to highly positive attitude towards mixed farming. The findings are similar with the findings of Patel (2013). Mixed farming being a sustainable, practical, adoptable, economic and prospective farming system, most of the farmers might have shown positive and highly positive attitude towards it. Moreover the farmers are already availing the benefits from mixed farming system and thus developed a positive attitude towards mixed farming.

Table 3: Relationship between profile of farmers and their attitude towards mixed farming n=50

Independent Variables	Correlation Coefficient (r value)
Personal variables	
Age	0.00941NS
Education	0.27228NS
Farming experience	0.10657NS
Economic variables	
Farm size	0.07176NS
Herd size	0.05322NS
Social variable	
Social participation	0.06497NS
Communicational variables	
Mass media exposure	0.08721NS
Extension contact	0.18164NS
Psychological variables	
Scientific orientation	0.45813**
Economic motivation	0.17835NS
Achievement motivation	0.19202NS

** = Significant at 1% level of probability NS = Non-significant

Relationship between profile of farmers and their attitude towards mixed farming

The independent variable scientific orientation had positive and highly significant relationship with attitude of farmers towards mixed farming. The findings are similar with the findings of Darandale (2011) and Damor (2013). The independent variables like age, education, farming experience, farm size, herd size, social participation, mass media exposure, extension contact, economic motivation and achievement orientation had non-significant relation with attitude of farmers towards mixed farming. The positivism towards mixed farming was observed uniformly encouraging amongst the farmers with irrespective level of their age, education, farming experience, farm size, herd size, social participation, mass media exposure, extension contact, economic motivation and achievement orientation, while it was observed highly positive amongst the farmers with high level of scientific orientation.

CONCLUSION

Mixed farming needs to be popularized. There are wonderful advantages of mixed farming system. The

major relevance of mixed farming systems are diverse and efficient use, reduced risk, better use of farm labour for higher productivity and increased income, improved use of space, efficient use of biological and chemical energy in the system and less dependence on external inputs, development of sustainable systems that use recycling, involve no pollution and are consistent with environmental protection, increased economic output and development of stable farm households (Devendra, 1995). It was observed from the result that majority (90.00 %) of the farmers had positive and highly positive attitude towards mixed farming. Understanding the positive feeling of the farmers towards mixed farming, it is advocated that more efforts should be made from grass root level in popularizing the mixed farming system instead of mono farming through training programmes, subsidizing the supply of inputs, organized farmers visit etc. so that sustainable development of agriculture can be received.

ACKNOWLEDGMENTS

The authors would like to thank all drip irrigated banana growers in Anand district of Central Gujarat for their cooperation in the face-to-face data collection.

Paper received on : April 07, 2017

Accepted on : April 21, 2017

REFERENCES

- Damor, K.C. 2013. Attitude of farmers towards organic farming. (Unpublished) M.Sc. (Agri.) thesis, AAU, Anand.
- Darandale, A.D. and Soni, N.V. 2011. The relationship between attitude of tribal maize growers towards organic farming and their selected characteristics. *Gujarat Journal of Extension Education*, 22, 8-9.
- Devendra, C. 1995. "Relevance of mixed farming system. Mixed farming and intensification of animal production systems in Asia." Round table on Livestock development strategies for low income countries. Proceedings of the joint FAO/ILRI. April 1995.
- Eagly, A.H. & Chaiken, S. 1993. *The Psychology of Attitudes*. Fort Worth, TX, Harcourt Brace Jovanovich, 1.
- Edwards, A.L. 1957. *Techniques of attitude scale construction*. Appleton Century Crofts, Inc., New York. 22-41.
- Eysenck, H.J. and Crown, S. 1949. An experimental study in opinion attitude methodology. *International Journal of Opinion and Attitude Research*, 3, 47-86.
- Guilford, J.P. 1954. *Psychometric Methods*. Tata McGraw- Hill Book Publication Co. Ltd., Bombay. 378-382.
- Likert, R.A. 1932. A Technique for the Measurement of Attitudes. *Archives of Psychology*, New York, 140: 43-55.
- National Commission on Agriculture 1976. *Mixed Farming. A report*. Animal Husbandry -Ministry of Agriculture and Irrigation, New Delhi. Part VII. 359-381.
- Patel, T.R. 2013. Entrepreneurial behaviour of poultry farmers of Anand district, Anand. (Unpublished) M.Sc. (Agri.) thesis, AAU, Anand.
- Reddy, B.P. 2010. Growth and Trends Discerning of Indian Dairy Industry. *Asia-Pac. j. soc. sci.*, 2 (2), 105-125.
- Sadhu, A.N. and Singh, A. 1993. *Fundamentals of Agricultural Economics*. Himalaya Publishing House, Bombay. 421.
- Sastry, N.S.R., Thomas, C.K., Singh, R.A. 1994. *Livestock Production Management*. Kalyani Publishers, New Delhi, 642.
- Thurstone, L. L. 1946. *The Measurement of Attitude*. *American Journal of Sociology*, Chicago University Press, 39-50.