A SCALE TO MEASURE DAIRY PROGRESSIVENESS OF A VILLAGE

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It has been observed that the farmer's socio-personal economic, Psychological and communication attributes play an important role in the adoption of dairy farming practices. But all these attributes of farmers have not been studied together sufficiently in the past. Moreover, there are not any studies with regard to adoption of Dairy innovations, where comparative study of two sets of progressive and non-progressive villages have been conducted. Therefore, it was felt necessary to measure the dairy progressiveness of the villages and to examine the important role played by the different attributes of the farmers in the two sets of villages, namely, progressive and non-progressive villages with the following objective.

To develop an instrument to measure the dairy progressiveness of a villages.

METHODOLOGY :

The study was conducted in ten villages serving as Field Laboratory for Dairy Development Programme of Dairy Extension Devision of NDRI, Karnal, out of ten villages, two villages namely, Phusgarh and Nagla farm were selected as dairy progressive and non-progressive villages respectively on the basis of the instrument developed for the study. The steps followed in developing the acale for this study are given below.

1. Collection of Items : A comprehensive list of 32 items was prepared by consulting relevant literature, informal discussions with the experts of the N.D.R.I., the farmers of the study area and personal experience of the investigator. All items collected were supposed to measure the dairy progressiveness of a village. Keeping in view, that each item should be suitable, relevant, easily scoreable, and capable of indicating dairy progressiveness, was again screened thus, after editing a list of 27 items was prepared.

2. Selection of Items : The edited 27 statements were than given to 80 judges (Scientists, Veterinarian and Development Personnel concerned with Dairy Development Programmes) to rate each items on a three point continum form most important to least improtant for their indicativeness in respect of dairy progressiveness of a village.

A score of 3, 2, 1, was given for most important respectively.

Thus, responses on these items were collected from 80 judges and their scores were arranged in ascending order for all the 27 items. The 25 percent i. e., 20 judges with the highest total score and the same number with the lowest total scores total scores in respect of all the items were separately identified to form high and low criterian groups. The difference in respect of all the items was worked out using the formula as given by "EDWARD" (1975). The calculated 't' values found significant in respect of a particular item, was retained finally for the dairy progressiveness scale. Thus out of the 27 items only 20 were selected finally, for the scale to measure the dairy progressiveness of a village.

3. Quantification of Items : In order to give weightage to each of the 20 selected items on a 5 point continuum ranging from very high to very low with regard to the level of dairy progressiveness indicated by each item was given to 30 judges selected amongst the scientists of NDRI, Karnal. They were requested to rate each item on the given 5 point continuum as

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described above. The mean scores from the judges responses were rounded to the nearest whole number for each of the item. The weightage of the sub items was decided on the basis of the weightage of the main item. The distribution of weights was also adjusted according to the number of sub-items in the main item.

4. Finla Format of the Study :

The final format of the scale to Measure the Dairy Progressiveness of a village is given below.

1. Extent of coverage of Artificial Insemination (A.I.) in cows :

   (A) Percentage coverage with A.I. :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

   (B) Percentage of families adopting A.I. :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

2. Extent of coverage of Artificial Insemination (A.I.) in Buffalo :

   (A) Percentage coverage with A. I. :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

   (B) Percentage of families adopting A. I. :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

3. Extent of adoption of pregnancy Diagnosis :

   (A) Precentage P. D. :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

   (B) Percentage of families adopting P. D. :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

4. Extent of coverage of Fertility Treatment :

   (A) Percentage of coverage :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

   (B) Percentage of families adopting :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

5. Extent of coverage of Vaccination :

   (A) Percentage coverage :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

   (B) Percentage of families adopting :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

6. Extent of coverage of Deworming of calves :

(A) Percentage coverage :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

(B) Percentage of families adopting this practice.

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

7. Extent of coverage of Tick Control :

(A) Percentage coverage :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

(B) Percentage of families adopting :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

8. Extent of coverage of Dehorning of calf :

(A) Percentage of coverage :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

(B) Percentage of families adopting :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

9. Outbreak of any contagious disease during the last Year ? Yes/No : If yes, than

(A) Percentage of animals suffered :

(i)	Up to 10 %	15
(ii)	Up to 25 %	12
(iii)	Up to 50 %	9
(iv)	Up to 75 %	6
(v)	More than 75 %	3

(B) Percentage of families suffered :

(i)	Up to 10 %	15
(ii)	Up to 25 %	12
(iii)	Up to 50 %	9
(iv)	Up to 75 %	6
(v)	More than 75 %	3

10. Calf Mortality in cow/buffaloe :

(A) Percentage of Calf Mortality :

(i)	More than 15 %	3
(ii)	Up to 15 %	6
(iii)	Up to 10 %	9
(iv)	Up to 5 %	12
(v)	Less than 5 %	15

(B) Percentage of families affected Calf Mortality :

(i)	More than 15 %	3
(ii)	Up to 15 %	6
(iii)	Up to 10 %	9
(iv)	Up to 5 %	12
(v)	Less than 5 %	15

11. Percentage coverage of balanced feeding (cattle feed) :

(A) Family using cattle feed :

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

(B) Consumption of cattle feed per animal/ month.

(i)	Up to 10 %	3
(ii)	Up to 25 %	6
(iii)	Up to 50 %	9
(iv)	Up to 75 %	12
(v)	More than 75 %	15

12. Extent of feeding of green fodder :
   (A) Family using cattle feed :

    (i) Up to 10 %   3
    (ii) Up to 25 %   6
    (iii) Up to 50 %   9
    (iv) Up to 75 %   12
    (v) More than 75 %   15

   (B) Percentage of mix in feeding green fodder throughout the Year :

    (i) Up to 2 %   3
    (ii) Up to 5 %   6
    (iii) Up to 10 %   9
    (iv) Up to 15 %   12
    (v) More than 20 %   15

13. Milk Marketing :
   (A) Is there any Dairy Cooperative Society in the village ? :
    Yes – 15   No. – 0
   (B) Family selling milk through :
    (i) Dairy Cooperative Society 15
    (ii) Self disposal   10
    (iii) Through Milk Vendor   5

14. Animals in Milk (Present position) :
   (A) Percentage of Milch animals in milk :

    (i) Up to 10 %   3
    (ii) Up to 25 %   6
    (iii) Up to 50 %   9
    (iv) Up to 75 %   12
    (v) More than 75 %   15

   (B) Percentage of families having more than 75 percent Milch animals in milk:

    (i) Up to 10 %   3
    (ii) Up to 25 %   6
    (iii) Up to 50 %   9
    (iv) Up to 75 %   12
    (v) More than 75 %   15

15. Wet average milk yield of milch animals :
   (A) In case of local cows :

    (i) Less than 5 litre/day   5
    (ii) Between 5 to 10 litre/day 10
    (iii) More than 10 litre/day   15

   (B) In case of buffaloes :

    (i) Less than 5 litre/day   5
    (ii) Between 2 to 7 litre/day 10
    (iii) More than 7 litre/day   15

   (C) In case of cross breed cows :
    (i) Less than 10 litre/day   5
    (ii) Between 10 to 15 litre/day 10
    (iii) More than 75 litre/day   15

16. Extent of feeding of green fodder : Percentage of families allowing their animals to drink water from the village pond :

    (i) Up to 10 %   15
    (ii) Up to 25 %   12
    (iii) Up to 50 %   9
    (iv) Up to 75 %   6
    (v) More than 75 %   3

17. Extension Contacts : Frequency of contact with extension personnel/agencies :

    (i) Regularly   15
    (ii) Most often   10
    (iii) Often   5
    (iv) Never   0

18. An effective multipurpose cooperative society in the village :
    Yes   15
    No.   0
If yes, then :
Percentage of farm families having membership of the Multipurpose Cooperative Society :

    (i) Up to 10 %   3
    (ii) Up to 20 %   6
    (iii) Up to 30 %   9
    (iv) Up to 40 %   12
    (v) More than 40 %   15

19. Means of Mass Communication : No. of radio sets and T.V. sets in the village :

    (i) Up to 10 %   3
    (ii) Up to 25 %   6
    (iii) Up to 50 %   9
    (iv) Up to 75 %   12
    (v) More than 75 %   15

20. Availability of Stockman center in the village :
    Yes   10
    No.   0

5. Reliability of the scale : In the present study, to test the reliability of the dairy progressiveness scale the test-retest method was used to assess the reliability of scales. The scale comprising 20 items was administered twice to the same respondents at an interval of 30 days to 35 dairy farmers selected randomly from the area other than sampled area. Thus, two sets of dairy progressiveness scores were obtained for each of the 35 respondents. The correlation, coefficients between these two sets of scores was found to be 0·812 which was significant at 0·01 level of probability, thus, it indicated taht the scale was reliable.

6. Validity of the scale :–The validity of the present scale of dairy progressiveness was established through content validity which refers to the representative ness or sampling adequacy of the content of a measuring instrument. Garrette (1977), stated taht the validity of a test or of any measuring instrument, depends upon the fidelity with which it measures what it purports to measure. He further indicated that validation of content through competent judgment is most satisfactory when the sampling of items is wide and judicious, and when adequate standardization group were utilized. Thus the ensure above criteria the content of the scale were derived from the content analysis of the relevant literature, and with the programme of research and dairy development. Therefore, it was as certained that the scores obtained by administering this scale measured what was intended to measure.

The overall mean dairy progressiveness score of the said 10 villages getting dairy progressiveness scors above overall mean were considered to be dairy progressive and those villages where mean scores was below 251. 43, were regarded as non-dairy progressive villages. In this, way it was found that out of 10 villages, 4 falls in group. Thus, one village namely "Phusgarh" from (getting highest) the dairy progressive group and the other namely "Nagla Farm" (getting lowest) non-dairy progressive group were selected for this study.

In order to find out if the progressiveness scores of the two groups of villages, that is progressive and non-progressive, differed significantly form each other, 't' value was computed and its results are showing in Table-1 given below :

Table 1. Comparison of the Dairy Progressiveness score of the dairy progressive and non-progressive villages.

S. No.	Dairy Progressiveness groups	Main Progressiveness score	S.D.	Difference mean score	Calculated 't' value
1.	Progressive Village.	415·60	25·60	227·80	8·47**
2.	Non-progressive Village	187·80	19·20		

** Significant at 0·05 level.

The data in the above table clearly depicts that was a significant difference between the two types of villages, dairy progressive and dairy non-progressive. Hence, these two villages were selected finally for the study.

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