

RESEARCH NOTE

Development and Standardization of A Scale for Livestock Based Farming

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ABSTRACT

The commonly used available scales for measurement of socio economic status (SES) mainly focused on the respondents practicing crop cultivation. It is irrelevant and not instrumental for research focusing fodder development or farmer-practicing livestock based activity. The socio-economic condition to them and bio-physical factors associated with the fodder production or livestock raising is totally different from those of farmers practicing crop based activity. Keeping in view a project was carried on at IGFRI with the objective to develop a cross regionally applicable scale for the purpose of enlisting true measures of Socio-economic Status of farmer practicing livestock based farming and applicable in multicultural setup. In three steps this scale has been developed i.e Item generation (Occupation, Education, Social Participation, Land, Housing type, Material possession, Family, Livestock Ownership, Credit linkage and Family Income Per Month), Scale Development (Relevance evaluation of SES indicators by the experts, Suitably modification in the indicators as suggested by the experts, weighted score for every alternative of the profile by the experts than validation of the final draft (Reliability and validity) was done on sufficient no of sample size in multicultural set up. Hence, first time a scale has been developed to measure socio economic status of farmers who engaged in livestock keeping, which is very much helpful to academicians, policy makers or students in conducting social researches or developing any policies for livestock farmers.

Key words: Socio economic status (SES); Scale; Livestock based farming; Reliability; Validity;

The Indian economy is predominantly rural and agricultural, and the declining trend in size of land holding poses a serious challenge to the sustainability and profitability of farming. Under the gradual shrinking of land holding, it is necessary to integrate crop enterprises with livestock and it is equally need of hour that the yardstick we use to measure the appropriateness of technology must be relevant and focused to the socio-cultural setup and farming resources of the client.

The need and significance of quantifiability and measurability of the concept and variables in social science have led to the formulation of devices/methods and execution of developmental programmes and, therefore, there is a need for the development of a valid and reliable instrument for the measurement of SES (Parikh and Trivedi, 1964). Socio-economic status of a family would mean the ranking of the family in the milieu to which the family belongs, in respect of defined

variables viz., physical assets, economic status, education, occupation, social position, social participation, caste, muscle power, political influence, etc. Some elements of the above variables have a tendency to go together. It was felt that the currently available scales 1-4 were either outdated or there was a need for redefinition of some relevant items for indicating the SES accurately (Jalota, 1970 and Shirpurkar, 1967). Moreover, these scales were developed on smaller samples drawn from sub-strata of population and not on larger representative cross-section of the community and livestock component is missing. Hence, scale developed so far are irrelevant and not instrumental for research focusing fodder development or farmer-practicing livestock based activity.

Considering the above points into consideration the present study was undertaken from 2010-14 at IGFRI, Jhansi with the objectives to develop a cross regionally

applicable scale for the purpose of enlisting measures of socio-economic items applicable in multiagrarian and multicultural setup of the country.

METHODOLOGY

Steps adopted to construct socio-economic scale to measure socio economic status of livestock farmers (Parikh U, Trivedi, 1964 and Kuppaswami, 1962)

Step 1 : Item generation:

- For developing the scale, ten indicators presumably determining the socioeconomic status is selected.
- Statements for these indicators are developed. This instrument is prepared upto 10-point scale.
- Weight age system of scoring is followed for these profiles.

Step 2: Scale Development

- Relevance evaluation of SES indicators by the experts
- Suitably modification in the indicators as suggested by the experts
- The weighted score for every alternative of the profile by the experts
- Evaluating the perfectness of the first draft on 30 families selected on stratified random basis from surroundings.
- Examination of final version of the scale by experts (placed with Res. Organizations /KVK/NGOs) across the country by administering the scale on different families with the objective of making the scale culture-free in multilingual, multicultural and multi religious settings of the country, after needed modifications.
- Arriving to final version of the scale

Step 3: Validation of the final draft: The final draft of the developed scale is tested in terms of reliability and validity “

Reliability: For finding the reliability of the scale, it was administered on a sample of 30 families. After an interval of 60 days, it was again re-administered on the same sample (Shirpurkar, 1967). The co-relations between the two scores were calculated by Karl-Pearson’s coefficient of correlation.

Validity: For testing the validity, three resource persons who knew very well about their locality and population, was individually explained the exercise and requested to identify families in their locality who, as per their

discretion and judgment, belonged to upper, upper-middle, middle, lower-middle and lower socioeconomic groups (Tiwari, 2005).

Score Card for Statements to measure the socio-economic status of livestock farmers

Occupation (head of household)

- | | |
|-----------------------------|-------------------------------------|
| 1= landless labour | 2= Unskilled worker |
| 3= Semi-skilled worker | 4= Skilled worker |
| 5= agriculture | 7= dairy + agriculture |
| 9= job+ dairy + agriculture | 10 = business + dairy + agriculture |

Education

- | | |
|---------------------|------------------|
| 0= illiterate | 1= can read only |
| 2= can read & write | 3= primary |
| 4= middle education | 5= high school |
| 6= Intermediate | 7=graduate |
| 8 = Post-Graduate | 9= PhD |
| | 10 =Professional |

Social Participation

- | | |
|-----------------------------|------------------------|
| 1= member of 1 organisation | 2= member of >1org. |
| 3= office bearer | 4= wider public leader |

Land

- | | | | |
|----------------|----------------|---------------|---------------|
| 0= no land | 1= < 1 acre | 2= 1-5 acres | 4= 5-10 acres |
| 6= 10-15 acres | 8= 15-20 acres | 10= >20 acres | |

Housing type

- | | | | |
|----------------|--|------------------|----------------|
| 0= no house | 2= hut | 4= kutchha house | 6= mixed house |
| 8= pukka house | 10 = concrete house with concrete slab | | |

Material possession (head of possessions)

- | | | | |
|-------------------------------|---------------|----------|------------------|
| 1= bullock cart | 1= cycle | 1= radio | 1= chairs |
| 3= improved agril. implements | 3= television | | |
| 4= refrigerator | 4= disc/cable | 3=mobile | 5=tractor 6= car |

Family

- | | | |
|------------|----------|-------------|
| 1= nuclear | 2= joint | 3= extended |
|------------|----------|-------------|

Livestock Ownership

- | | | |
|------------|------------|-----------|
| 10= 12 ACU | 8 = 10 ACU | 6 = 8 ACU |
| 4 = 6ACU | 2 = ≤4 ACU | |

Credit linkage

- | | |
|---------------------------------|--------------------------|
| 10= govt. financial institution | 8= Kisan credit cards |
| 6= Agricultural insurance | 4= private money lenders |
| 2= friends and relatives | 0= no source for credit |

Family Income Per Month (in Rs)*

- | | | |
|------------------|--------------------|------------------|
| 10= ≥20000; | 9 = 15000 – 19999; | 7 = 10000-14999; |
| 4 = 75000– 9999; | 3 = 5000 – 7499; | 2 = 3000– 4999; |
| 1= ≤2000 | | |

RESULTS AND DISCUSSION

Arriving at final version of the scale: The final draft of the scale was sent to 55 experts through author’s network and personal contact across all the five zones

of country with the objective of making the scale culture-free in multilingual, multicultural and multireligious settings of our country. The experts were requested to contribute in this venture by administering the scale on 50 families from rural, inclusive of 10 families each from 5 defined strata i.e. -upper, upper-middle, middle, lower-middle, and lower) (4 from North zone, 3 from South zone, 2 each from East and West zones and 1 from Central zone) responded. Thus the scale was re-administered on 610 families across the country in addition to 80 families from Jhansi centre (N=690). All the 12 experts were of the opinion that the scale was a useful, valid and reliable instrument to measure socio economic status of livestock farmers engaged in livestock based families. Useful suggestions were incorporated and necessary modifications were done in the final draft to make it culture-free, standard and countrywide applicable scale both in urban and rural areas. After all these exercises, the final version of the scale was developed., which is given as follows:

Score allotment for all items for Socio economic scale

Items	Socioeconomic Class				
	Lower (V)	Upper Lower (IV)	Lower Middle (III)	Upper Middle (II)	Upper (I)
Occupation	3	5	7	9	10
Education	3	5	7	9	10
Social participation	1	3	5	7	10
Land holding	2	4	6	8	10
House Type	2	4	6	8	10
Material possession	4	10	16	25	32
Family Type	1	1	2	2	3
Livestock ownership	2	4	6	8	10
Credit linkage	4	10	20	25	30
Family income	2	4	7	9	10
Total	24	50	91	110	145

Total Score SES (Socioeconomic Class)

- Upper (I)
- Middle
- Upper Middle (II)
- Lower Middle (III)
- Lower
- Upper Lower (IV)
- Lower (V)

Score range for SES: Once the score is allotted then it was found in the range of 24 to 145. It means that minimum score will be 24 and maximum is 145.

The weighted score for every alternative of the profile was determined on the basis of recommendation given by the experts, the experience of the researcher and the importance given by the community. Hence, Weighted score is decided for each indicator by the experts and team member during test and retest of scale with respect to their contribution in SES scale.

Items	Socioeconomic Class					
	W	L	UL	LM	UM	U
Occupation	10	0.3	0.5	0.7	0.9	1.0
Education	10	0.3	0.5	0.7	0.9	1.0
Social participation	5	0.05	0.15	0.25	0.35	0.5
Land holding	10	0.20	0.4	0.6	0.8	1.0
House Type	8	0.16	0.32	0.48	0.64	0.80
Material possession	10	0.40	1.0	1.6	2.5	3.2
Family Type	2	0.02	0.02	0.04	0.04	0.06
Livestock ownership	15	0.30	0.6	0.9	1.2	1.5
Credit linkage	10	0.40	1.0	2.0	2.5	3.0
Family Income	20	0.40	0.8	1.4	1.8	2.0
	100	2.53	5.29	8.67	11.63	14.06

W=Weight age as per contribution of indicator in scale in %,
 L=Lower (V), U= Upper (I) UL= Upper Lower (IV),
 LM=Lower Middle (III), UM= Upper Middle (II),

SES categories and the score range: Total weighted Score range for SES (Scio economic status) of livestock farmers were found in the range of 2.53 to 14.06

Socioeconomic class	Weighted Score
Upper (I)	14.06
Middle Upper Middle (II)	11.63
Lower Middle (III)	8.67
Lower Upper Lower (IV)	5.29
Lower (V)	2.53

Reliability: For finding the reliability of the scale, it was administered on a sample of 30 families. After an interval of 60 days, it was again re-administered on the same sample. The co-relations between the two scores were calculated by Karl-Pearson’s coefficient of correlation. The reliability of the scale was high with a correlation coefficient of 0.918.

Validity: For testing the validity, three resource persons who knew very well about their locality and population, was individually explained the exercise and requested to identify families in their locality who, as per their discretion and judgment, belonged to upper, upper-middle, middle, lower-middle and lower socioeconomic groups (Bhardwaj, 2001). It was found correct more than 96 per cent. So the validity of developed SES scale can be considered very high.

CONCLUSION

Final version of the scale is ready to use by the academicians, researchers or policy makers. Technology would be tailored to make it situation specific and compatible to the existing socio-economic and internal resources of farming.

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