



Entrepreneurial behaviour and constraints encountered by farm women in dairy enterprise

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ABSTRACT

The study analyzed various dimensions of entrepreneurial behaviour of dairy women farmers and identified their constraints encountered by them in dairy farming in Mandi district of Himachal Pradesh State of India. Performance of majority of respondents on 10 dimensions of entrepreneurial behaviour was moderate to high except in case of innovativeness and knowledge about enterprise. The overall entrepreneurial behaviour of respondents was of medium level. Except age and family size, all other personal attributes of dairy farm women were observed to be positively and significantly correlated with overall entrepreneurial behaviour. A large majority of respondents (83%) encountered medium to high extent of constraints in dairy farming. The major constraints encountered by women included lack of technical knowhow about improved technology; lack of financial institutions; difficulty in getting loan; high cost of improved milch breed, feed, concentrate and medicines; non-availability of improved seed of fodder crops; lack of proper marketing facility, lack of entrepreneurship development oriented training; low price of milk and repeat breeding in cows.

Key words: Dairy enterprise, Entrepreneurial behaviour, Farm women, Strategy

Farm women are the major work force engaged in dairy farming (Lahoti *et al.* 2012). About 75 million women as against 15 million men are engaged in dairy farming in India (Thakur and Chander 2006). Dairy farming is also considered an important enterprise in Himachal Pradesh with total milk production of about 11.39 lakh tonne (Anonymous 2013) and Mandi district stands second in milk production in Himachal Pradesh. Dairy farming has been the domain of activities of farm women and has great potential for socio-economic transformation of farm women through entrepreneurship development in this sector. However, a number of interlinked factors influence the entrepreneurial behaviour of human beings and understanding of these factors is very essential for entrepreneurship development (Amarnath and Samvel 2008). India has become the largest milk producing country in the world but per caput production is one of the lowest in the world mainly due to non-adoption of improved dairy management practices by farmers, particularly farm women (Patil *et al.* 2009). Low productivity of dairy animals is also of great concern in the country, particularly in Himachal

Pradesh due to climatic and socio-economic factors. Identification of such constraining factors and seeking the suggestions of farm women on dairy enterprise are equally important for enhancing the milk production in the State in general and Mandi district in particular. The present study was undertaken to analyze the entrepreneurial behaviour of dairy farm women and its relationship with personal attributes, identify different types of constraints and eliciting their suggestions for development of dairy enterprise.

MATERIALS AND METHODS

Ex-post facto research design was used in the present investigation. Considering the high involvement of women in dairy farming in Himachal Pradesh, the study was conducted in Mandi district of the State by adopting a multi-stage sampling technique. In the first stage 2 community blocks namely Sundernagar and Balh were selected randomly. Subsequently, a sample of 100 farm women having 5 years active experience in dairy enterprise was drawn from these blocks by following population proportionate sampling technique. The study was focused on studying the entrepreneurial behaviour (EB) of farm women involved in dairy enterprise was studied. The EB was operationalized as cumulative outcome of 10 dimensions including management orientation (MO), achievement motivation (AM), economic motivation (EM), risk orientation (RO), self confidence (SC), leadership ability (LA), utilization of available assistance (UAA), farm

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decision making (FDM), innovativeness (INNO), and knowledge level (KNOW). These dimensions were measured either by using the already developed scales/test or schedule developed for the purpose. The scores obtained on all dimensions were added and total score was considered as EB of farm women. An index was developed to express the EB by using following formula.

$$\text{Entrepreneurial behaviour index (EBI)} = \frac{\sum_{n=1}^{10} T_n}{\sum_{n=1}^{10} M_n} \times 100$$

where, T_n , total obtained score of the component “n”; M_n , maximum obtainable score of the component “n”.

Pearson product-moment correlation coefficient was employed to determine the extent and direction of relationship between the dimensions as well as overall EB and personal attributes of farm women. The constraint was operationalised as the degree to which a respondent farm woman encountered problems in running the dairy enterprise. An exhaustive list of possible constraints/problems was prepared and response was obtained on ‘Yes’ and ‘No’ categories. One score was assigned for each constraint if the response was ‘Yes’ and zero for ‘No’. The score obtained by each respondent was considered as the number of constraints faced by the respondent. Data were personally collected with the help of a well developed interview schedule and respondents were categorised by using cumulative frequency cube root technique.

RESULTS AND DISCUSSION

Entrepreneurial behaviour of respondents: The findings regarding overall EB revealed that majority of the respondents (63%) were in medium level of EB which might be due to their higher education level, higher economic motivation and higher scientific orientation. Nath and Kumar (2008) also reported medium extent of EB of farm entrepreneurs.

The results in respect of various dimensions of EB are presented in Fig. 1. It was found that large majority of respondents had medium to high level of management orientation (74%), achievement motivation (80%) and economic motivation (84%). This might be due to their enthusiasm, zeal to excel and become economically well-off. These factors encourage the individual towards achieving the goals, which one has set for oneself. These findings are in accordance with findings of Nath and Kumar (2008). Calculated risk taking ability is a desirable attribute of an entrepreneur and results also indicated that majority of the respondents (59%) had moderate risk taking ability. The above findings are in accordance with the findings of Palmurugan *et al.* (2008). The majority of respondents had medium to high level (Fig. 2) of self-confidence (77%), leadership ability (78%), utilization of available assistance (73%) and innovativeness (76%). Self-confidence is a consistent behaviour pattern which indicates extent of feeling of one's own ability and resourcefulness in carrying out any activity. Higher amount of achievement motivation, economic motivation and decision making ability leads to build up confidence in an individual to realize the fruits of one's efforts and gain monetary benefits out of it. Getting recurrent income from dairy enterprise might have got them more confidence and thus increased their self-confidence. More involvement of women in dairying resulting into more exposure to sources of assistance and it might be the reason for medium to higher level of utilization of available assistance. On the other hand, lack of awareness about the different sources of assistance might be the reason for the lesser utilization of available assistance by the respondents. Higher socio-economic status, more risk taking ability and availability of more resources might have helped the respondents to adopt the new dairy technology relatively earlier. An entrepreneur takes rational decision after weighing of alternatives. Consequently, majority of respondents (71%) were in medium category of farm decision making (Fig. 1). Decision making ability is based

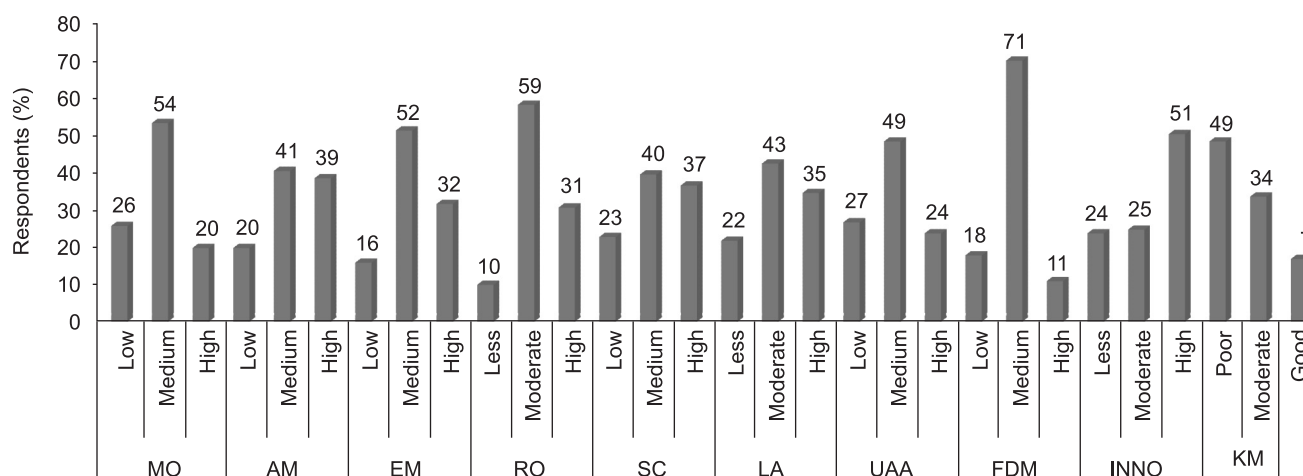


Fig. 1. Distribution of respondents according to the dimensions of entrepreneurial behaviour

Table 1. Correlation between personal attributes and entrepreneurial behaviour (EB) of respondents

Characteristics	Correlation coefficient										
	Management orientation	Achievement motivation	Economic motivation	Risk taking ability	Self-confidence	Leadership ability	Utilization of available assistance	Farm decision making	Innovativeness	Knowledge of enterprise	Overall entrepreneurial behaviour
Age	-0.207**	-0.310*	-0.230*	-0.066 ^{NS}	-0.184**	-0.269*	0.130 ^{NS}	0.150 ^{NS}	0.223**	-0.135 ^{NS}	-0.153 ^{NS}
Formal education	0.488*	0.568*	0.416*	0.243*	0.323*	0.534*	-0.022 ^{NS}	-0.015 ^{NS}	-0.114 ^{NS}	0.146 ^{NS}	0.464*
Family size	-0.030 ^{NS}	0.045 ^{NS}	0.022 ^{NS}	-0.011 ^{NS}	0.078 ^{NS}	0.161 ^{NS}	0.046 ^{NS}	-0.054 ^{NS}	-0.028 ^{NS}	0.009 ^{NS}	0.057 ^{NS}
Social participation	0.234*	0.289*	0.254*	0.099 ^{NS}	0.221**	0.195**	0.131 ^{NS}	0.261 *	-0.167 ^{NS}	0.254*	0.298*
Land holding	0.129 ^{NS}	0.007 ^{NS}	0.013 ^{NS}	0.161 ^{NS}	0.115 ^{NS}	0.022 ^{NS}	0.228**	0.081 ^{NS}	0.152 ^{NS}	0.090 ^{NS}	0.194**
Socio-economic status	0.238*	0.153 ^{NS}	0.087 ^{NS}	0.264*	0.013 ^{NS}	0.119 ^{NS}	0.046 ^{NS}	-0.014 ^{NS}	0.150 ^{NS}	0.128 ^{NS}	0.228**
Size of enterprise	0.271*	0.125 ^{NS}	0.131 ^{NS}	0.096 ^{NS}	0.094 ^{NS}	0.196**	0.048 ^{NS}	0.200**	0.093 ^{NS}	0.331*	0.298*
Experience in enterprise	-0.017 ^{NS}	0.031 ^{NS}	-0.027 ^{NS}	0.141 ^{NS}	0.096 ^{NS}	0.115 ^{NS}	0.243*	0.111 ^{NS}	0.452*	0.039 ^{NS}	0.272*
Income from enterprise	0.236*	0.241*	0.202**	0.220**	0.099 ^{NS}	0.176**	-0.055 ^{NS}	0.238*	-0.150 ^{NS}	0.234*	0.238*
Total annual income	0.238*	0.153 ^{NS}	0.087 ^{NS}	0.263*	0.013 ^{NS}	0.119 ^{NS}	0.046 ^{NS}	-0.014 ^{NS}	0.150 ^{NS}	0.130 ^{NS}	0.228**
Marketing facilities	0.121 ^{NS}	-0.009 ^{NS}	-0.006 ^{NS}	0.069 ^{NS}	0.022 ^{NS}	0.086 ^{NS}	0.322*	0.033 ^{NS}	0.473*	-0.074 ^{NS}	0.238*
Information sources utilisation	0.330*	0.398*	0.328*	0.192**	0.150 ^{NS}	0.401*	-0.153 ^{NS}	-0.188**	-0.006 ^{NS}	0.224**	0.321 *
Training received	0.546*	0.392*	0.402*	0.255*	0.120 ^{NS}	0.429*	0.217**	0.093 ^{NS}	0.112 ^{NS}	0.173 ^{NS}	0.504*
Scientific orientation	0.482*	0.557*	0.236*	0.400*	0.300*	0.154 ^{NS}	-0.116 ^{NS}	0.351*	-0.051 ^{NS}	0.191**	0.421*

*, ** indicate significance at 5 and 1 % levels, respectively; NS, non-significant.

on the foresight and confidence of an individual. The respondents were full of confidence that might have facilitated them to choose well among the several available alternatives. Ram *et al.* (2012) also observed almost similar type of findings. With regard to knowledge level, about half (49%) of the respondents had poor knowledge level while more than one-third (34%) had moderate knowledge and remaining 17% had good knowledge. The lack of exposure to training programmes, information sources utilization etc. might be the probable reasons for poor level of respondents knowledge about dairying.

Relationship between personal attributes and Entrepreneurial behaviour of respondents: The findings revealed that formal education, social participation, land holding, socio-economic status, size of enterprise, experience in enterprise, income from enterprise, total annual income, marketing facilities, information sources utilisation, training received and scientific orientation were positively and significantly related with overall EB of respondents (Table 1). It means an increase in above characteristics had increased the EB of respondent or *vice-versa*. With better education, an individual developed more access to extension agencies, mass media and development organizations to get higher profit from enterprise (Ram *et al.* 2012). Further, relatively large holdings, higher socio economic status, large size of enterprise, also provide opportunities and potential to try and adopt technological innovations which in turn reflect on the EB (Palmurugan *et al.* 2008, Ram *et al.* 2012). The utilization of available assistance and innovativeness might have made respondents more mature and knowledgeable about the marketing system which is required for better decision and management of dairy enterprise. The interaction effect of dimensions of EB with different sources of information that updated respondents' knowledge and skill might be the reason for significant relationship between information sources utilisation and overall EB. Training received and

scientific orientation also exhibited positive and significant relationship with overall EB. Training motivates the individuals, which leads to their successful performance hence, its significant influence was exhibited. Similar findings were also reported by Nath (2005). The favourable attitude towards science and technology and better educational level of respondents which in turn applied scientific practices for increasing the productivity of their enterprise might be the reason for significant relationship. Further, age and family size shows nonsignificant relationship with overall EB of respondents (Table 1). Borate *et al.* (2010) also reported nonsignificant relationship of age and family size with EB of respondents.

Extent of constraints encountered by respondents: The distribution trend of respondents with respect to extent of constraints faced by them in running the dairy enterprise. Nearly half (48%) of the respondents encountered medium extent of constraints in running their dairy enterprise followed by more than one-third (35%) who faced high level of constraints. Remaining 17% of the respondents expressed less number of constraints in running the enterprise. Overall, large majority of the respondents (83%) had expressed medium to high extent of constraints in running their enterprise.

Types of constraints expressed by the respondents: The constraints faced by respondents were classified into 4 categories i.e., cognitive, credit, input, extension service and marketing constraints (Table 2). The major cognitive constraints expressed by the respondents included lack of knowledge about silage making (90%), feeding of mineral mixture and uromin brick (89%), management of diseases in animals (83%), improved varieties of fodder (74%) and difficulty in keeping milk during the summer (45%). Lack of interest, awareness and non-participation in training programmes by the respondents could be the possible reasons. Almost equal number of respondents expressed lack of financial institutions in rural area (41%) and

Table 2. Constraints encountered by respondents

		n=100
Types	Constraints	Frequency/percentage
Cognitive	Lack of knowledge about the management of diseases in animals	83
	Lack of knowledge about improved varieties of fodder	74
	Lack of knowledge about silage making	90
	Lack of knowledge about feeding of mineral mixture and uromin brick	89
	Difficulty in keeping milk during summer	45
Credit	Lack of financial institutions in the rural area	41
	Difficulty in getting loan	42
Input	High cost of improved breed of milch animals	91
	High cost of feed, concentrate, medicines etc.	78
	Non-availability of improved seed of fodder crops	85
Extension service	Lack of veterinary hospital in the village	18
	Lack of artificial insemination (AI) centre	15
	Lack of entrepreneurship development oriented training	71
	Lack of advice on solving repeat breeding problem	58
Marketing	Lack of proper marketing facility	64
	Low price of milk	74

Table 3. Distribution of respondents based on their suggestions to improve the dairy enterprise

Suggestions	Frequency/percentage
	n=100
Training on entrepreneurship development on dairy farming	72
Feed, concentrates etc. should be made available at cheaper rate	100
Milk price should be increased	100
Improved variety seed of fodder should be provided and demonstrated	74
Promotion of small-scale dairy processing units in the villages	65
Marketing facilities be strengthened through milk collection centres	52
Demonstration on silage making be given	88
Exposure visit be organized to successful dairy units	90
Provision of artificial insemination by technical expert	45

difficulty in getting loan (42%) as constraints in the area of credit that might be due to lack of either government support or complex procedure of financial institutions. With regards to constraints on inputs, the respondents reported high cost of improved milch breeds of cow (91%), non-availability of improved seed of fodder crops (85%) and high cost of feed, concentrate and medicines (78%). Since, feed and concentrate are must for dairy animals and if the cost increases, naturally, it affects the profit margin. Low price of milk (74%) and lack of proper marketing facility (64%) were the major marketing related constraints reported by the respondents. High competition, consumer's preference to quality milk and poor marketing outlet might be the reason for non-remunerative price for milk and lack of proper marketing facility respectively. Further, majority of the respondents (71%) reported lack of entrepreneurship development oriented training facilities as the major constraint under extension services (Table 2). As modern dairy farming demands more technical knowledge, therefore, respondents had rightly felt lack of training facilities as the constraint in getting scientific knowledge in dairy farming. Repeat breeding of cow was also reported as a serious constraint by 58% respondents. This might also be due to lack of advice by technical experts. Nearly one-third of respondents also indicated lack of veterinary hospitals (18%) and artificial insemination centres in the villages (15%). Some of the similar constraints were also identified in the past by Khoveio *et al.* (2012) and Kumar *et al.* (2012).

Suggestions of respondents to improve dairy enterprise:

All the respondents suggested that feed, concentrates and medicines should be made available at cheaper rate and milk price should be increased (Table 3). The respondents were not satisfied on milk price possibly due to higher rate of various inputs in the market. Therefore, the dairy entrepreneurs may be trained in making quality feed and concentrate from their own resources for their dairy animals to reduce the expenditure. The other major suggestions offered by respondents were demonstration on silage making (88%), organization of exposure visit to successful dairy units (90%), availability and demonstration on

improved variety seed of fodder crops (74%) and training on entrepreneurship development on dairy farming (72%). Other important suggestions were promotion of small-scale dairy processing units in the villages (65%), strengthening of marketing facilities through milk collection centres (52%) and artificial insemination in cows by technical expert (45%). Marketing and processing of milk are of paramount importance for promotion of dairy enterprise. Moreover, lack of marketing facilities in the district indicates the need for developing sustainable dairy value chain involving all stakeholders including women farmers. Unless milk and milk products are not marketed at reasonable rate, the dairy entrepreneurs cannot be encouraged for adoption of good practices for getting higher milk production.

It is concluded that performance of majority of respondents on various dimensions of EB was moderate to high except in innovativeness and knowledge about enterprise. The overall EB of respondents was of medium level. Hence, it draws the attention of animal husbandry and dairy development department of State Government that there is an ample scope for improving the EB by imparting entrepreneurship development training to the farm women engaged in dairy farming. Besides, special efforts need to be made for entrepreneurship development among farm women having low income, less information sources utilization pattern and those who never received any training in dairy farming. Emphasis should also be laid on training in making quality feed, concentrate by their own resources to reduce the expenditure, establishment of small-scale dairy processing units and milk collection centres in the villages to get reasonable rates of milk. More technical advice should be made available to overcome the problem of repeat breeding. Nevertheless veterinary hospital/ dispensaries should be opened to ensure animal health for harnessing the full potential of this enterprise in the state. The findings on various types of constraints in dairy farming faced by farm women have highlighted the need for developing a sustainable dairy value chain in the district with adequate focus on integrating all related gender issues to foster entrepreneurship development among farm women.

REFERENCES

- Amarnath J S and Samvel A P V. 2008. *Agri Business Management*. Satish Serial Publishing House, Delhi, India.
- Anonymous. 2013. *Statistical Outline of Himachal Pradesh 2012–13*. Department of Economics and Statistics, Himachal Pradesh.
- Borate H V, Mahadik R P and Kokate K D. 2010. Entrepreneurial behaviour of mango growers. *Journal of Community Mobilization and Sustainable Development* **5**(2): 69–73.
- Khoveio Michael L L, Jain D K and Chauhan A K. 2012. Economics of milk production and its constraints in Nagaland. *Indian Journal of Dairy Science* **65**(6): 520–526.
- Kumar S, Kumar B, Kumar R and Sankhala G. 2012. Farmers' opinion to reduce the constraints in scientific dairy farming practices—a case study. *Indian Journal of Animal Sciences* **82** (7): 762–766.
- Lahoti S R, Chole S R and Rathi N S. 2012. Role of women in dairy farming. *Indian Journal of Dairy Science* **65** (5):442–446.
- Nath D. 2005. 'A study on entrepreneurial behaviour of farmers of Mandi district of Himachal Pradesh.' M Sc Thesis. College of Agriculture, CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur.
- Nath D and Kumar A. 2008. A comparative study of farm entrepreneurs of Mandi district of Himachal Pradesh. *Himachal Journal of Agricultural Research* **34** (2): 73–78.
- Palmurugan M, Jhamtani A and Padaria R N. 2008. Entrepreneurial behaviour of vanilla growers of Tamil Nadu and Kerala. *Indian Journal of Extension Education* **44**(1&2): 58–64.
- Patil A P, Gawande S H, Nande M P and Gobade M R. 2009. Constraints faced by the dairy farmers in Nagpur district while adopting animal management practices. *Veterinary World* **2**(3):111–112.
- Ram D, Singh M K, Jayarani L and Prasad A. 2012. Extent of entrepreneurial behaviour of women of IMA market in Imphal West district of Manipur. *Souvenir and compendium of 6th National Seminar on Emerging Challenges and Paradigm Shift for Sustainable Agri Rural Development*. pp. 95–96. 18–20 December 2012. UHF, Solan.
- Thakur D and Chandar M. 2006. Gender based differential access to information among livestock owners and its impact on house hold milk production in Kangra district of Himachal Pradesh. *Indian Journal of Dairy Science* **59**(6):401–404.