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Predictor Variables Affecting Adoption of Improved Pig Management Practices by Entrepreneurs

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ABSTRACT

In order to transform a traditional pig farmer in to an entrepreneur, one will require some specific traits. Study was carried out to find out significant predictor variables affecting adoption of improved pig management practices by entrepreneur. The present study was conducted in Jharkhand and Chhattisgarh having three agroclimatic regions each. Total 60 large commercial pig farmers were selected from six districts of two states. The effect of socio-economic and entrepreneurial characteristics was analyzed on adoption of improved pig management practices. It was found that 57 per cent variation was due to five significant predictor variables namely decision-making ability, mass media exposure, rearing experience, credit utilization and family size. Extension officers, veterinary personnel, gram panchayats and other related functional units have to play a key role in giving a definite shape to make this endeavor into a reality.

INTRODUCTION

Livestock husbandry is an allied agricultural activity that has always been a part of way of life and social ethos in rural India. Next to agriculture, it is an important sub-sector that plays a major role in employment generation and economic contribution to Indian economy. Livestock sector contributes nearly 4.11 per cent of revenue to the country's gross domestic product (GDP) (Basic animal husbandry statistics, 2019). Pig farming in India has transformed from unorganized sector to a broad based organized industry. The demand for pig product has steadily grown both in domestic and international market. The pig industry is now a booming export hub and a ready income generator for Indian economy. Increasing health consciousness, changing socio-economic dynamics coupled with rising middle class population having high disposable income has created a ready market for livestock products. The growth of this industry can be attributed to the fact that a large number of entrepreneurs are taking up pig rearing on commercial line. Entrepreneurs associated to livestock farming, production of raw materials related to livestock farms and livestock related processing industries is considered as livestock entrepreneur. In order to transform a traditional pig farmer in to an entrepreneur, one will require entrepreneurial traits. A person who combines innovativeness, senses opportunities, identifies and mobilizes resources and is persistent in achieving the goal. Entrepreneurship may not be considered as hereditary or confined to few classes or sexes, rather be developed and mastered with sincere effort. With sincere efforts, the entrepreneurial characteristics could be honed and mastered. Entrepreneurship programme plays a pivotal role in boosting the economy of many nations. Owing to the numerous challenges that are facing agriculture today such as agricultural policy reforms, climate change, dwindling budget for agriculture, changing social, political and economic conditions for farming, and the development of new global markets, entrepreneurship development among farmers is key to survive in agricultural development (Kobba et al., 2020) Therefore, it is feasible to identify individuals who

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have necessary skill sets to become an entrepreneur in livestock sector, motivate, train and polish skills through organized programmes and help them become self-reliant. Extension worker can help farmers for behavioral change as extension service is for achieving a better animal husbandry production and productivity (Jena et al., 2018). The study attempts to analyze and understand the socio-economic and entrepreneurial behaviour of livestock owners and its impact on adoption of improved pig management practices.

METHODOLOGY

The present study was conducted during 19-2020 in Jharkhand and Chhattisgarh state of India. Jharkhand and Chhattisgarh were selected for study as both have similar types of agroclimatic conditions. Jharkhand consist of three agroclimatic regions namely Western Plateau Zone, Central & North Eastern Plateau zone and South Eastern Plateau zone, from each zone one district viz Ranchi, Deoghar and Saraikela Kharsawan district were selected randomly. In Chhattisgarh also three agroclimatic regions are present namely Bastar Plateau zone, Chhattisgarh plain zone and North hills zone, from which Bastar, Mahasamund and Surguja were selected respectively. List of commercial farmers was obtained from Agriculture, Animal Husbandry and Cooperative Department, Jharkhand, Chhattisgarh Livestock Development Department, Chhattisgarh, Krishi Vigyan Kendra, NGO, District animal husbandry offices of both states. Total 60 large commercial pig farmers were selected from six districts of two states on basis of criteria that pig farmer should have 10 and above pigs. After getting list of commercial farmers, they were contacted randomly and post stratification was done. The respondents were further classified into Entrepreneurs and Conventional large livestock farmers. Entrepreneurs were those who have; taken up any innovation in his/her farm (Farmer + Innovation = Entrepreneur), taken up commercialization i.e., a process where person start producing primarily for sale in distant markets, rather than to meet their own need for food or to sell in local markets and have received awards/ recognitions by the Government, SAUs or any organization for their firms.

Total 42 conventional pig farmers and 18 pig entrepreneurs were selected for study. First frequency percentile distribution of respondents on the basis of socio-economic and entrepreneurial characteristic was done then to study significant predictor variables affecting adoption of improved pig management practices stepwise multiple regression by backward elimination was used. Total 25 independent variables were used namely age, education, family type, family size, social participation, primary occupation, secondary occupation, family income rank, livestock possession, training received, credit utilization, rearing experience, marketing channel, information sources, land holding, mass media exposure, extension contact, innovativeness, achievement motivation, decision making ability, total risk orientation, coordinating ability, planning ability, cosmopoliteness and self-confidence respectively. Adoption of improved pig management practices was measured on which effect of independent variables were seen.

RESULTS AND DISCUSSION

In the current study, all the socioeconomic and entrepreneurial factors were analyzed using stepwise regression to see their effect on adoption level. Backward elimination technique was followed until all the factors with significant effect on adoption level were left and thus found out. The procedure was repeated to find the best predictors for the adoption level out of all the socioeconomic as well as behavioral parameters. On perusal to Table 1 it can be seen that r square in the beginning was .676 which means that all the 25 predictors taken together explained 67.6 per cent of total variation in dependent variable i.e. adoption level of improved pig husbandry practices. It was further found that from 25 independent variables, 20 variables were removed and five variables were retained. Although all 25 variables were affecting adoption of improved pig husbandry practices to some extent but R square value

Table 1. Stepwise multiple regression on adoption of improved pig husbandry practices

Model/step no	Variables removed	Name of theVariable	R	r square	r square change
1	None	None	.822	.676	.676
2	Education	X2	.822	.676	.000
3	Training received	X10	.822	.676	.000
4	Marketing channel	X13	.822	.676	.000
5	Primary occupation	X6	.822	.675	-.001
6	Achievement motivation	X19	.821	.674	-.001
7	Family type	X3	.821	.673	-.001
8	Extension contact	X17	.819	.672	-.002
9	Age	X1	.818	.669	-.002
10	Coordinating ability	X22	.817	.667	-.002
11	Information sources	X14	.816	.666	-.002
12	Land holding	X15	.812	.660	-.006
13	Family income	X8	.807	.652	-.008
14	Innovativeness	X18	.804	.647	-.005
15	Livestock possession	X9	.800	.639	-.008
16	Cosmopoliteness	X24	.796	.634	-.006
17	Secondary occupation	X7	.792	.627	-.007
18	Social participation	X5	.787	.619	-.008
19	Planning ability	X23	.780	.609	-.010
20	Self confidence	X25	.772	.595	-.014
21	Total risk orientation	X21	.758	.574	-.021

r = Correlation coefficient, r square = coefficient of determination

Table 2. Independent predictor variables for adoption of improved pig husbandry practices

Parameter	Name of the variable	b value	S.E of b	t value
(Constant)		-1.063	2.459	-.432
Decision making ability	X22	.538	.100	5.353
Mass media exposure	X16	.378	.091	4.174
Rearing experience	X12	.156	.065	2.407
Credit utilization	X11	2.009	1.122	1.790
Family size	X4	.474	.276	1.714
$R=0.758$, $R^2=0.57$, $F=14.573$				
$Y=-1.063+0.538*X22+0.378*X16+0.156*X12+2.009*X11+0.474*X4$				

b = coefficient of regression, t = value of paired t test

in end was 0.57 which means that 57 per cent variation was due to these five significant predictor variables (Table 2) namely decision making ability, mass media exposure, rearing experience, credit utilization and family size. The decision making ability was found to be an important predictor for better adoption of innovations. This is because a business plan devised right at the start would force the entrepreneur to reflect on and prepare for critical problems that may come up in future. Similar type of result were found by Kiran et al., (2012) and Lawrence and Ganguly (2012). Frequent exposure to mass media helped in higher adoption index. Pre arguments could be that these factors predispose the farmers to interact with the external world, permitting a likely increase in the inflow of new ideas and thus act in a progressive way. The findings are in conformity with Godara and Bhimawat (2012); Gulkari et al., (2014); Gupta and Sharma (2020). Rearing experience was another important predictor. The increased experience in pig enterprise might have helped pig farmers to attend to different piggery activities more efficiently. Thus, longer experience allowed for efficient management under different situations or contexts. Similar types of trends were reported by Ibitoye and Onimisi (2013) and Babalola (2014). Credit is important in any business because it helps to finance business transactions when the business in short of fund. The studies have revealed that the persons who have taken loan and utilized for the betterment of their business are more successful. The findings are in alignment with National Sample Survey Organization (2005). The family size is also an important predictor variable which shows that a person who has more working hands in the family has less dependence on the outside labour which becomes uncertain on many occasions.

CONCLUSION

Livestock farming is changing from an allied agricultural activity to a main stream industrial activity. Improved pig husbandry and breeding practices are ensuring remunerative returns in the hands of pig farmers. Technology and logistics support have further enhanced the self life of products which add more income to the pockets of entrepreneur. To take maximum benefit of the existing infrastructure and to build a robust business model, a transformation among the traditional farmers is inevitable. Though a number of variables play simultaneously while determining the course of transformation of a traditional pig farmer into an entrepreneur the significant predictor variables are namely decision making ability, mass media exposure, rearing experience, credit utilization and family size are required for converting traditional pig farmer into an entrepreneur. Inducing these traits among the farmers can be done through well structured and scientific training. Therefore training on scientific pig rearing practices must be organized by the agriculture/veterinary universities, KVKs/NGOs working in the area of pig development.

REFERENCES

Babalola, D.A. (2014). Determinants of Farmers Adoption of Agricultural Insurance: the Case of Poultry Farmers in Abeokuta Metropolis of Ogun State, Nigeria. *British Journal of Poultry Science, 3*(2), 36-41.

Basic Animal Husbandry Statistics (2019). Ministry of Agriculture. Department of Animal Husbandry, Dairying and Fisheries. New Delhi, 2014.

Godara, S. & Bhimawat, B.S. (2012). Information sources and channels utilization pattern by the farm women for technical knowledge of wheat production technology. *Rajasthan Journal of Extension Education, 20*(2), 164-166.

Gulkari, K.D., Nethravathi, G., Phodiyil, O.V. & Gade, Y. (2014). Profile analysis of dairy farm women in adoption of scientific practices. *International Journal of Agriculture Extension, 2*(3), 159-163.

Gupta, R.M. & Sharma, P. (2020). SWOT analysis of online teaching during lock down: Blended teaching the way forward. *Indian Journal of Extension Education, 56*(4), 19-25.

Ibitoye, S.J. & Onimisi. J.A. (2013). Influence of Training on Farmer's Productivity in Poultry Production in Kogi State, Nigeria. *International Journal of Poultry Science, 12*(4), 239-244.

Jena, A., Chander, M., Sinha, S.K., Joshi, P., Singh, D. & Thakur, D. (2018). Extension Service Delivery through Mobile Veterinary Units (MVUs): An Appraisal. *Indian Journal of Extension Education, 54*(1), 186-190.

Kiran, D.D., Gupta, B.K. & Pandey, D.K. (2012). Entrepreneurial behaviour in rural women of Sultanpur district of Uttar Pradesh. *Indian Research Journal of Extension Education, 12*(2), 29-33.

Kobba, F., Nain, M.S., Singh, R., Mishra, J.R. & Shitu, G.A. (2020). entrepreneurial profile and constraint analysis of farm and non-farm sectors entrepreneurial training programmes in Krishi Vigyan Kendra and rural development & self employment training institute. *Indian Journal of Extension Education, 56*(3), 17-26.

Lawrence, C. & Ganguly, D. (2012). Entrepreneurial behaviour of dairy farmers in Tamil Nadu. *Indian Research Journal of Extension Education, 12*(1): 66-70.

National Sample Survey Organization. (2005). Indebtedness of Farmer Households, NSS59th Round, January December 2003, Report No 498(59/33/1), Ministry of Statistics and Programme Implementation, Government of India, May.