

## ADOPTION STATUS OF LIVESTOCK INNOVATIONS AND FACTORS AFFECTING THEIR ADOPTION IN BIDAR DISTRICT OF KARNATAKA

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### ABSTRACT

An ex-post facto and exploratory study was conducted to assess the adoption status of livestock innovations and factors affecting their adoption in Bidar District of Karnataka. Among thirteen innovations studied, pregnancy diagnosis and vaccination against disease were the most adopted innovations while compost making/biogas and enrichment of roughages were the poorly adopted innovations. The study revealed that majority of dairy farmers belongs to medium level of innovativeness followed by high and low level of innovativeness. The study concluded that, there is a need to assess the technological gaps, actual adoption of technologies and factors affecting their adoption and diffusion at field conditions. Appropriate strategies must be developed by livestock agencies to have better impact and popularization of livestock technologies.

**KEYWORDS:** Adoption, Karnataka, Livestock innovations

### INTRODUCTION

The scenario of livestock technologies adoption in developing countries including India is very dismal, widening the gap between technologies developed and available at research institutions and technologies actually being adopted or used by the farmers. Although various technologies are generated and promoted by research institutions, only few of them are adopted and diffused at the field conditions (Melesse et al., 2013). Various isolated studies (Patil, 2006; Basunathe et al., 2010; Chander, 2011) are conducted on the adoption and diffusion status of particular innovations in India but very negligible studies are conducted on comparative adoption status of livestock innovations and factors affecting their adoption in a particular area at a given period of time. With this back drop, the present study was carried out to find the adoption status of selected livestock innovations, innovativeness character of dairy farmers and factors affecting the adoption of livestock innovations in Bidar District of Karnataka.

### MATERIALS AND METHODS

An ex-post facto and exploratory study was conducted in Bidar District of Karnataka during February to June 2013 to assess the adoption status of livestock innovations and factors affecting their adoption. A multistage random sampling technique was followed to collect data from 200 farmers using pretested semi structured interviews schedule. Within Bidar District, all the five blocks were selected and two villages per block at the sample size of 20 farmers per village were finalized to make total sample size of 200 farmers for the study. A list of innovations was selected from literature and in consultation with the experts for the study. Based on the number of years since when a particular innovation was adopted by farmers, the status was studied on a four point continuum with the score of 4, 3, 2 and 1 for adoption of an innovation from 4 to 6 years and above, 2 to 4 years, 0 to 2 years and 1 for non adoption of innovations. However, irregularity in adoption of innovation was also considered as non adoption and was allotted a score of 1 for the study. Further, based on mean and SD the innovativeness of farmers was calculated. The information collected

through personal interview was statistically analyzed using the tools like Frequency, Percentage, Mean, SD, correlation and regression coefficients.

## RESULTS AND DISCUSSION

Table 1 depicts that among thirteen innovations, pregnancy diagnosis (50 %), vaccination against disease (50.5%), Artificial Insemination (48.5%) and deworming (48.0 %) were the most adopted innovations in the study area. However, higher adoption of AI, vaccination, concentrate feeding were also reported by Basunathe et al. (2010) and Musaba (2010).

**Table 1. Adoption status of livestock innovativeness by dairy farmers**

**N=200**

Sl No	Livestock Innovations	Since last 4-6 Years & Above		Since Last 2- 4 years		Since Last 2 Years		Not Adopted	
		f	%	f	%	f	%	f	%
1	A I in Dairy animals	97	48.5	07	3.5	29	14.5	67	33.5
2	Pregnancy diagnosis	100	50.0	08	4.0	37	18.5	55	27.5
3	Vaccination against disease	101	50.5	23	11.5	55	27.5	21	10.5
4	Feeding balanced ration	93	46.5	07	3.5	17	8.5	83	41.5
5	Deworming	96	48.0	26	13.0	56	28.0	22	11.0
6	Growing green fodder	88	44.0	38	19.0	49	24.5	25	12.5
7	Mechanical chaff cutter	35	17.5	04	2.0	03	1.5	158	79.0
8	Colostrums feeding	68	34.0	36	18.0	54	27.0	42	21.0
9	Weaning/ Feed starter	54	27.0	0	0	07	3.5	139	69.5
10	Enrichment of roughages	03	1.5	0	0	04	2.0	193	96.5
11	Feeding mineral mixture	04	2.0	2	1.0	05	2.5	189	94.5
12	Compost making/Biogas	02	1.0	0	0	0	0	198	99.0
13	Use of disinfectants	05	2.5	0	0	0	0	195	97.5

Table 1 also depicts that deworming (48 %), green fodder cultivation (44 %) and balanced ration feeding or concentrates (46.5 %) were the next most adopted innovations in the study area. The previous studies also indicated poor adoption of green fodder cultivation (Vidya sagar et al., 2012), deworming (Basunathe et al., 2010) and concentrates (Singh et al., 2009). In the study area,

**Table 2. Innovativeness of livestock farmers**

Mean-27.27

SD- 9.00

n=200

S. No	Category/Scale	Frequency	Percentage
1	Low ( 15.0-18.27)	48	24.0
2	Medium (18.28-36.27)	96	48.0
3	High (36.28-46.0)	56	28.0

N= Number of Observations

**Table 3. Relation between socio-economic and personal characters with innovativeness of farmers.**

Sl. No	Independent Variables	Corr. Coeff ( r )	Reg. Coeff. ( b )	SE	p-Value
X <sub>1</sub>	Age	-0.033	0.030	0.038	0.419
X <sub>2</sub>	Education	0.119	0.184	0.522	0.724
X <sub>3</sub>	Major Occupation	-0.255*	-0.966	0.442	0.030*
X <sub>4</sub>	Social participation	-0.263*	0.197	0.225	0.383
X <sub>5</sub>	Landholding	0.074	0.008	0.012	0.478
X <sub>6</sub>	Annual Income	0.216*	0.011	0.003	0.002**
X <sub>7</sub>	Livestock size	0.081	-0.375	0.190	0.049*
X <sub>8</sub>	Information seeking behaviour	0.535*	0.371	0.161	0.022*
X <sub>9</sub>	Decision making ability	0.438*	0.252	0.146	0.086
X <sub>10</sub>	Scientific Orientation	0.626*	0.992	0.309	0.001**
X <sub>11</sub>	Economic Orientation	0.615*	1.504	0.417	0.0004**

Multiple R: 0.6910

R Square: 0.4775

Goodness of fit: 47.75 %

\* Significant @ 5 % level of significance

\* \* Significant @ 1 % level of significance

colostrum feeding (34%) was practiced to a lesser extent due to lack of knowledge. The study depicted that compost making/biogas (99 %), use of disinfectants (97.5 %), enrichment of roughages (96.5%) and feeding mineral mixture (94.5 %) were not adopted in the study area. Almost similar poor adoption conditions were reported for use of disinfectants (Tiwari et al., 2007), enrichment of roughages or crop residue supplementation (Chander, 2011) and feeding mineral mixture (Tiwari

et al., 2013)

Table 2 depicts that majority of dairy farmers (48.0 %) belong to medium level of innovativeness followed by 24.0 per cent each for high and low level of innovativeness respectively. Almost similar finding were reported by Rathod et al. (2012). The innovativeness of livestock owners was found to be significantly correlated with major occupation, social participation, annual income, information seeking behaviour, decision making ability, scientific orientation and economic orientation in the study region (Table 3). The coefficient of determination (R-square= 0.69) was explained by 11 variables to the extent of 47.75 per cent in this model. Almost similar finding was reported by Musaba (2010).

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