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Status and Determinants of Livestock Insurance in India: A Micro Level Evidence from Haryana and Rajasthan

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ABSTRACT

This study was undertaken to assess the extent of coverage of livestock insurance and identify the factors that motivate farmers to adopt livestock insurance. The readiness to pay the level of livestock insurance premium was also examined. The study is based on a field survey conducted in Haryana and Rajasthan in 2015 from 900 livestock farmers. Our findings suggest that the extent of coverage is still poor with extremely low rate of renewal by policyholders. The adoption of livestock insurance is influenced by a member of socio-economic and demographic household characteristics, which include age, gender of household head, household income, education, occupation, experience in livestock, family size, herd size, average yield and location. The lower coverage along with extremely low rate of renewal casts doubts on the spread of livestock insurance in the country if concerted efforts are not made to evolve farmers' friendly demand driven livestock insurance products.

Keywords: Livestock insurance, Risk management strategies.

JEL: G22, D81

I

INTRODUCTION

The livestock insurance scheme has its genesis in Germany, when in 1909 a Compensation Fund was established to insure livestock. Since then the livestock insurance schemes have been evolving and presently several types of schemes have come into existence. Among developing countries, livestock insurance schemes have developed with a differential success across countries. Currently, several types of national livestock insurance systems exist in most developed countries but are still evolving in the developing countries (Kaweesi, 2005).

Livestock is one of the most important productive assets in the rural areas in India and an effective insurance mechanism for the famers to cope with household related shocks (Ahuja *et al.*, 2000; World Bank, 1999; LID, 1999; de Haan, *et al.*, 2001).Therefore, in India too, the livestock insurance was conceived as an effective instrument to protect this vital farm assets long ago, but organised Cattle Insurance Scheme was initiated through the Small Farmers' Development Agency (SFDA) in1971. But the scheme got a real boost only when nationalised banks started financing for the purchase of cattle and agreed to collect premium from beneficiaries

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under Integrated Rural Development Programme (IRDP). Since then livestock insurance scheme has undergone several transformations. But in spite of concentrated efforts by the union and state governments, it has not picked up the desired pace. The coverage is still very less. This is a matter of concern as livestock act as security and poverty reduction instrument for majority of the marginal and small farmers in India and the lack of insurance coverage made them even more vulnerable in the event of unforeseen events. Now, the policymakers are confronted with the challenges of bringing livestock assets of the resource poor under comprehensive risk cover. But this vital asset is also prone to several risks and uncertainties and a suitable insurance mechanism is a prerequisite to absorb the brunt of these shocks. Consequently, several livestock insurance mechanisms have evolved and became operational.

A serious debate has been going on to strengthen the agriculture and livestock insurance in the country. The latest Pradhan Mantri Fasal Bima Yojana (PMFBY) is an indication of the seriousness of the issue. There are several issues which need critical analysis. These include whether farmers are aware about the scheme and what factors motivate them to buy insurance products for their animals? How much they are ready to pay for livestock insurance? What are the constraints they face in availing the livestock insurance cover? Globally, there is a mixed response on the adoption of livestock insurance products. For instance the adoption of Index-Based Livestock Insurance (IBLI) in Kenya resulted in one-third reduction in the number of households choosing meal reduction as a coping strategy (Carter and Janzen, 2012). There are a few studies on the livestock risk management strategies and characterisation of the farmers who adopt the insurance in India. This study was undertaken to contribute to the scanty literature on this important theme. The specific objectives of the study are to (i) examine the extent of livestock insurance coverage, (ii) assess the determinants for farmers' participation in the livestock insurance, and (iii) identify the factors determining farmers' level of payment for livestock insurance.

The paper is organised as follows. The next Section describes data and methodology. Results and discussions are discussed in Section III, conclusion and policy implication are discussed in Section IV.

II

DATA AND METHODOLOGY

Data

The study is based on the primary data collected in the year 2015 at the farm level in two states, Haryana and Rajasthan. These states depict diverse agro-climatic conditions. Haryana is blessed with assured irrigation and availability of feeds and fodder is not a concern. Rajasthan faces rainfed and dry conditions and having challenged environment for livestock rearing. A multistage random sampling

technique was employed to select the districts and villages. Two districts from each state were selected randomly. Subsequently five villages from each selected district of Haryana and Rajasthan were randomly chosen. This way a total of 20 villages were selected for field survey. From each village 50 farmers having at least one milch animal were randomly selected for interview. Thus, 500 households were selected from each state, making the total sample size of 1000 households. However, the analysis could be carried out only for 913 households and 87 households had to be abandoned on account of data quality. The sample were post-stratified into two categories, i.e., adopter and non-adopter of livestock insurance.[1]

The data collected cover a wide range of households and farm information which include socio-economic features of the respondents, livestock composition, herd size, land holding size, income, adoption of insurance, premium paid, milk yield and constraints in the adoption of livestock insurance policy.

Methodology

Descriptive statistics were worked out to understand the characteristics of adopters and non-adopters of livestock insurance, constraints in adoption, amount of premium paid etc. The econometric analysis was carried out to identify the factors influencing participation in and level of payment for livestock insurance.

Logit Model

A logit model was estimated to identify the factors influencing livestock farmers' to purchase an insurance cover for their animals. Since the dependent variable was a binary variable (farmers have taken livestock insurance = 1, otherwise = 0), and the independent variables were a mix of quantitative variables, the multivariate logistic regression given in Equation (1) was used:

$$Y = \ln[p/(1-p)] = \beta_o + \sum \beta_i X_i \quad \text{....(1)}$$

where p represented the probability that the farmers are having a livestock insurance and β_{is} were the regression coefficients estimated by the maximum likelihood method. The explanatory variables used in the model included gender, age, education, household income, occupation status, experience in livestock, family size, total land holding, total number of livestock, average yield (litre/day) and knowledge level of insurance.

The interpretation of coefficients is less straightforward in the logit than the OLS model. Usually, a positive coefficient for an independent variable increases the probability of a household being upwardly mobile. However, the marginal effects of the explanatory variables on the probabilities are not equal to the coefficients. Further

calculations were required to estimate the marginal effects of each explanatory variable. The marginal effect of a variable was computed by using Equation (2):

$$\delta p(y)/\delta X_i = \beta X_i * \exp[Z]/[1+\exp(z)]^2 \quad \ldots(2)$$

where Z was the sum of coefficients multiplied by the means of the respective variables plus the constant term.

Tobit Censored Regression Model

We have also used standard Tobit form of regression model to estimate impact of the selected factors on rural household's level of payment for livestock insurance. The dependent variable for the Tobit model is the household's actual payment of insurance in rupees per year in the survey year 2015. In the Tobit model estimated, the lower limit value of censured sample has been set as zero and the upper censored limit as 400, the maximum amount that the surveyed sample households have paid as premium of the livestock insurance. The general equation of Tobit model is (for details, see, Gujarati *et al.*, 2011):

$$Y_i^* = \beta X_i + \alpha + u_i + e_j \quad \ldots(3)$$

where, Y_i^* is latent variable with $Y_i = \begin{cases} 0 \text{ if } Y_i^* < 0 \\ Y_i^* \text{ if } Y_i^* \geq 0 \end{cases}$

u_i= between entity error

e_j= within entity error

here, Y = Amount of insurance premium paid by the household in a year (Rs./HH/year).

X_i= The factors (independent variables) affecting the variation of Y_i across the households. The number of factors and their specification that we have used in the regression models are also given.

III

RESULTS AND DISCUSSION

Livestock Insurance System in India

Livestock insurance is provided by public sector insurance companies and the insurance cover is available for almost all livestock species. Normally an animal is insured up to 100 per cent of the market value. The premium of the insurance was subsidised up to the extent of 50 per cent. The entire cost of subsidy on premium, honorarium to the veterinary practitioners, publicity and awareness was borne by the Central Government. The balance 50 per cent of premium was borne by the state and beneficiaries. The premium subsidies were restricted to the two animals only and

given one time insurance for three years. The premium is 4 per cent of the sum insured for general public and 2.25 per cent for the targeted beneficiaries.

Though there are several players in the livestock insurance market, more than 80 per cent of the livestock insurance in India are done by the public sector insurance companies namely, New India Assurance Company Limited (NIACL), National Insurance Company Limited. (NICL), United India Insurance Company Limited (UIICL) and Oriental Insurance Company Limited (OICL). However, several innovative cattle insurance products have been developed and being offered by HDFC, Tata AIG, JK Trust, BAIF and others through Kshetriya Gramin Financial Services (KGFS) in partnership with a local Dairy Healthcare Services Enterprise supported by the Dairy Network Enterprise (DNE). In addition, to promote social equality and improve financial inclusion, under Scheduled Caste Sub-plan and Scheduled Tribe Sub-plan a substantive subsidies have been earmarked for promotion of livestock among these communities.

The chronology of the evolution of cattle insurance schemes reveals that livestock insurance schemes in India have undergone various transformations. However, still these schemes have not yet been stabilised and standardised (Annexure I). In spite of concerted efforts in the past, the progress in livestock insurance has been slow. However, in recent years it has picked up and by 2012-13, about 80 million animals are insured which is nearly about 16 per cent of the livestock population in India (Table 1). Further, there is a wide inter-state variation in the coverage of livestock insurance in India.

TABLE 1. PROGRESS OF LIVESTOCK INSURANCE IN INDIA

Year (1)	Number of animals insured (million) (2)	Per cent livestock population insured (3)
2003-04	29.4	6.06
2006-07	53.33	10.75
2007-08	45.23	8.91
2008-09	39.77	7.67
2009-10	68.2	12.88
2010-11	81.63	15.51
2011-12	81.4	15.57
2012-13	80.3	15.47

Sources: Basic Animal Husbandry Statistics (various issues) and Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Government of India.

Socio-Economic Characteristics of Respondents

The socio-economic characteristics of adopters and non-adopters of livestock insurance does not show significant difference except in average herd size, average milk yield and household income. The average herd size for adopters of livestock insurance was 3.9 as against 5.3 for the non-adopters. But the average milk yield was significantly higher for adopters (8.1 litre/day) than that of non-adopters (4.7

litre/day). The average annual income was also significantly higher for adopters than non-adopters of livestock insurance (Table 2).

TABLE 2. SOCIO-ECONOMIC FEATURES OF HOUSEHOLDS

Indicators (1)	Insurance adopter (2)	Insurance non-adopter (3)	t-Test of difference (4)
Sample size (number)	288	625	
Age (years)	50.0	49.6	0.4311
Experience in livestock farming (years)	41.9	41.9	0.0356
Households headed by female (per cent)	4.9	4.8	0.0016#
Education level (per cent)			
Illiterate	50.4	53.0	6.1640#*
Below primary	8.0	8.8	
Secondary	16.7	19.8	
Senior secondary	15.9	12.6	
Above Sr. secondary	9.0	5.8	
Main occupation status (per cent)			
Agriculture	27.1	30.4	1.0458#
Agriculture + Livestock	72.9	69.6	
Average herd size (number)	3.9	5.3	7.11***
Average milk yield (liter/day)	8.1	4.7	33.29***
Average land holding size (ha)	3.1	3.1	0.04
Family income (Rs./annum)	1,18,738	1,11,403	1.6088**

Source: Field survey, 2015

Note: *** and **represent significance at 1 and 5 per cent level respectively, #represent Pearson chi2 (1) and #*represent Pearson chi2 (4).

Livestock Insurance in Study Area: Coverage, Renewal and Preferences

Table 3 provides the macro picture of livestock insurance coverage in Haryana and Rajasthan. The coverage of insurance for animals in these two states are contrasting. About 9 per cent of the livestock population is under insurance in Haryana. But the extent of livestock insurance in Rajasthan is comparatively dismal; only 3.3 per cent of the livestock is covered under insurance in the state.

TABLE 3. PROGRESS OF LIVESTOCK INSURANCE IN HARYANA AND RAJASTHAN

Year (1)	Haryana		Rajasthan	
	Number of animals insured (million) (2)	Per cent livestock population insured (3)	Number of animals insured (million) (4)	Per cent livestock population insured (5)
2006-07	6.42	7.24	1.22	2.23
2007-08	6.68	7.54	1.73	3.05
2009-10	5.31	6.00	1.19	2.09
2010-11	5.07	5.73	2.22	3.89
2011-12	5.41	6.12	2.86	4.99
2012-13	8.08	9.15	1.91	3.32

Source: *Basic Animal Husbandry Statistics* (various issues) and *Livestock Census*, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, Government of India.

The coverage of livestock insurance in our sample households by and large echoes the macro trends in Haryana. However, in Rajasthan, the coverage in our sample households was found almost double of the state average. The livestock insurance coverage for our sample households were 8.4 per cent in Haryana and 7.7 per cent in Rajasthan. The access to livestock insurance in terms of households is even better. About one-third of the livestock rearing households availed the livestock insurance facilities in the study area (Table 4). But, the concern remains why two-thirds of the livestock farmers are still beyond the reach of livestock insurance providers? Though some of them may be voluntary non-participants, majority of them might be involuntary.

TABLE 4. ANIMAL INSURED AND HOUSEHOLD AVAILED THE LIVESTOCK INSURANCE

(per cent)

Animals insured (1)	Animal insured			Households availed the livestock insurance		
	Haryana (2)	Rajasthan (3)	All (4)	Haryana (5)	Rajasthan (6)	All (7)
Cow	6.2	6.3	6.3	25.0	23.7	24.4
Buffalo	2.2	1.4	1.9	10.6	5.1	8.1
All	8.4	7.7	8.1	34.0	28.6	31.6
N	2438	1545	3983	500	413	913

Source: Field survey, 2015.

The renewal of livestock insurance reveals the satisfaction level from clients and service delivery of the insurance companies. The insurance renewal data presented in Table 5 does not reveal an encouraging scenario. In both states combined, only about 9 per cent of the households are reported to have renewed the livestock insurance, which has serious policy implications. Why about 90 per cent of the beneficiaries were not interested to continue the service speaks volumes about the functioning of the livestock insurance delivery system in the country.

TABLE 5. RENEWAL OF LIVESTOCK INSURANCE

(per cent)

Insurance renewed (1)	Haryana (2)	Rajasthan (3)	All (4)
Cow	7.6	4.2	6.3
Buffalo	3.5	1.7	2.8
All	10.6	5.9	8.7
N	170	118	288

Source: Field survey, 2015.

Reasons for Non-renewal of Insurance Policy

To understand the rationale behind discontinuance, we tried to identify the reasons for this non-renewal and these are presented in Table 6. The reasons for discontinuance of livestock insurance reported by the livestock farmers were (i) difficulties in getting claims, (ii) high rates of insurance premium, (iii) lack of trust on insurance company, (iv) long delays in claim processing and (v) lack of information about renewal process. These reasons do provide an insight to designing of a farmer friendly livestock insurance product based on real needs of the farmers. A

comprehensive study is needed to identify the type of livestock insurance products demanded by the livestock-rearing farmers.

TABLE 6. REASONS REPORTED FOR DISCONTINUANCE THE INSURANCE BY RESPONDENTS

(per cent)

Reasons	Haryana	Rajasthan
(1)	(2)	(3)
Getting claim is difficult	92.4	95.2
Very high premium	82.2	65.9
No use	61.5	69.1
Lack of trust on insurance provider	50.4	53.8
It does not pay out when farmer suffer loss	46.5	55.1
Lack of information about renewal process	93.9	95.1

Source: Field survey, 2015.

Determinants for Adoption of Livestock Insurance

The data on the determinants of the adoption of livestock insurance were analysed using the logit regression model. A number of socio-economic variables were hypothesised to determine the farmers' decision to adopt livestock insurance. The significance of the diagnostic statistics (chi-squared and log likelihood value) shows a good fit for the model. The results of the logit model presented in Table 7, reveal that age, education, gender, household income, experience in livestock rearing, household size, herd size, average yield of milch animal have a significant influence on farmers' decision to insure their animals. Age has a positive impact on the farmers' decision to adopt livestock insurance. Similarly, education positively and significantly affects the farmers' decision to go for livestock insurance. Higher education generates more awareness and reflect better understanding of the impending danger in the absence of livestock insurance. This is in line with a priori expectations and consistency with previous studies (Mohammed and Ortmann, 2005; Feder *et al.*, 1985; and Babalola, 2014). The female headed households are better placed in terms of taking their decisions about purchasing of the livestock insurance products. However, it should be noted that only 10 per cent per cent of the households in our study area are headed by females. The herd size, household income and experience in livestock farming have a significant negative influence on the adoption of livestock insurance. This may be attributed to the fact that farmers having higher income and larger herd size are relatively less vulnerable and having better risk absorption capacity, therefore not very inclined to insurance their animals. Farmers' experience in livestock rearing reduced the probability of adopting livestock insurance. The farmers in the study area had high farming experience which might have contributed to their proficiency in utilising technologies and alternative risk management strategies (Ugwumbu *et al.*, 2010). The geographical diversity too has significant effect on the adoption of livestock insurance as the coefficient for district dummies are significant.

TABLE 7. DETERMINANTS OF PARTICIPATION IN INSURANCE SCHEME

	Dependent variable: Insured (Yes-1, Otherwise -0)			
Parameters	Coefficient	Standard error	Marginal effect	Standard error
(1)	(2)	(3)	(4)	(5)
Age of household-head (years)	0.183**	(0.0813)	0.0116**	(0.00501)
Gender of household-head (Male - 1, otherwise -0)	-1.500**	(0.634)	-0.0952**	(0.0467)
Household income (Rs./annum)	-9.44006**	(4.80006)	-5.9907**	(2.6007)
Education level				
Below primary	0.445*	(0.265)	0.0294	(0.0180)
Up to secondary	0.452**	(0.179)	0.0299**	(0.0143)
Senior secondary	3.958***	(0.996)	0.210***	(0.0378)
Above Sr Sec	0.56	(0.39)	0.0367	(0.0234)
Occupation status				
livestock main + Agriculture subsidiary	1.040***	(0.125)	0.0697***	(0.00939)
Experience in livestock	-0.125***	(0.0394)	-0.00791***	(0.00225)
Family size	0.321***	(0.0908)	0.0204***	(0.00480)
Total land holding (in ha)	-0.102	(0.0934)	-0.00649	(0.00616)
Total number of livestock	-0.0846***	(0.0302)	-0.00537**	(0.00234)
Average yield	1.394***	(0.116)	0.0884***	(0.00196)
Districts				
Bikaner	-3.610***	(0.287)	-0.194***	(0.0230)
Udaipur	-4.683***	(0.405)	-0.281***	(0.0301)
Constant	-6.940***	(1.864)	204	
Block fixed effect	Yes			
No. of observations	204			
Log pseudolikelihood	-43.188583			
Pseudo R2	0.627			

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

There is an additional step of computation required to get the marginal effects after logit model. The marginal effects are given in Table 8 and it clearly defines that a one unit change in the age, education (higher), occupation, family size and average yield variables, increases the probability of having livestock insurance by 1.2, 3.0, 2.1, 7.0, 2.4 and 8.8 per cent respectively.

Determinants of Level of Payment for Livestock Insurance Premium

The results from the Tobit model presented in Table 8 reveal that family size, total land holding, average yield and having buffalo significantly influence on payment of livestock insurance premium. The bigger family size and higher milk yield have positive influence on the level of payment for livestock insurance. But the land size negatively influences the farmers' level of premium payment. Age, experience in livestock, having cow and higher education does not have any influence on paying livestock insurance premium. In the Tobit model, we put the state effect to observe any behaviour changes or any policy level impact, but, we did not find any variation. This may be attributed to the fact that farmers having more social responsibility and less awareness of livestock insurance product displayed least interest in payment of livestock insurance premium.

TABLE 8. DETERMINANTS OF LEVEL OF PAYMENT OF LIVESTOCK INSURANCE PREMIUM

Parameters (1)	Intensity of payment from Tobit model (2)	Standard error (3)
Age of household-head (years)	0.63 ns	(0.95)
Experience in livestock	-0.39 ns	(-0.60)
Family size	3.78*	(1.69)
Total land holding (in Ha)	-2.46**	(-1.96)
Average yield (Litre/hh/day)	13.90***	(6.00)
Dummy variables-Household possess;		
Buffalo (Yes -1, Otherwise – 0)	164.77***	(11.64)
Cow (Yes -1, Otherwise – 0)	147.14	(12.22)***
Dummy variable-Household occupation;	-9.68	(-1.32)^{ns}
Farming source as a main income (control)= 0, Livestock and others source of income = 1		
State specific effect, Haryana = 0, Rajasthan =1	12.84	(1.24)^{ns}
Dummy variables-Education of the household head		
Higher secondary school (D1), others zero	-9.95	(-1.19)^{ns}
Graduate and post graduate educated	-3.99	(-0.26)^{ns}
Adjusted R-square of the model	0.74	
F- statistics of the Model estimated	40.9***	
Total number of observations	906	
Log likelihood of the model	-1659.06	
Number of jackknife iteration of the model	900	

Standard errors in parentheses , *** p<0.01, ** p<0.05, * p<0.1. The Tobit model was estimated with correction of the heteroskadesticity error terms across the households by using Variance Covariance Errors (VCE) corrected model. This was done using Jackknife option of correction of VCE form of error correction, and results reported are from converged model of 900 iterations while minimizing the variances of the model in Stata software of version 13. Detailed information on econometrics aspect of the jackknife form of robust model can be found in REF (Cameron, Colin and Pravin Trivedi, 2009).

IV

CONCLUSION AND POLICY IMPLICATIONS

The relatively low coverage and extremely lower renewal of livestock insurance may cast doubts on the feasibility of livestock insurance. Based on the findings of the study, it is suggested that government and other stakeholders' efforts need to be directed towards policies and programmes to create more awareness, assess the real demand of attributes preferred by farmers in the livestock insurance products and constant engagement with all stakeholders for designing and launching any livestock insurance product.

NOTE

1. Those farmers who have taken livestock insurance called "adopter" and those who have not taken livestock insurance called "non-adopter".

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ANNEXURE TABLE. LIVESTOCK INSURANCE SYSTEM IN INDIA OVER THE PERIOD OF TIME

Year of start programme (1)	Programme implementing agency (2)	Modalities and outcomes (3)	Remarks (4)
1947	The question of introducing an agriculture insurance scheme was examined soon after the Independence in 1947.	Following an assurance given in this regard by the then Ministry of Food and Agriculture (MOFA) in the Central Legislature to introduce crop and cattle insurance, a special study was commissioned during 1947-48 to consider whether insurance should follow an *Individual approach* or a *Homogenous area approach*	
1971	Small Farmers Development Agency (SFDA): Cattle Insurance Scheme	Insurance through Nationalised banks financing purchase of cattle	Premium was collected on annual basis.

(Contd.)

ANNEXURE TABLE. (CONCLD.)

Year of start programme (1)	Programme implementing agency (2)	Modalities and outcomes (3)	Remarks (4)
1983	Cattle insurance policy under IRDP	Livestock and assets insurance for poor also @ 50 per cent subsidies on loan through GIC company with the premium 2.25 per cent death +0.85 per cent for permanent disability	Lack of awareness resulted in low claim ratio
1983	Livestock insurance under market agreement	As per GIC guidelines, four companies were doing it and there was no subsidy. Premium varied from 2.25 per cent to 4 per cent for non-scheme animals and age of cattle 2-8 years, buffaloes 3-12 years	Voluntary basis; very low intake and later on premium was reduced and intake increased
1999	Insurance Regulatory Development Authority (IRDA)	Liberalisation of insurance industry and launching of **National Agricultural Insurance Scheme (NAIS) 1999-**	Coverage remained poor
2001	Private players registered	ICICI Lombard, IFFCO, TOKYO, HDFC, ERGO, Royal Sundaram ventured into livestock insurance	Area of operation still limited
2003	Cattle insurance freed from market agreement	After 2003 all insurers were given a free hand to decide premium and policy conditions by themselves. It paved the way for innovations of product and processes	Coverage increased but still low
2005	Inception of Micro Insurance Regulation Act	Micro finance Institutions (MFI), NGOs and SHGs can act as insurance provider	
2006	Livestock Insurance scheme implemented by State Livestock Development Boards (SLDB) and State Animal Husbandry Departments (SAHD)	Milch animals insured, 50 per cent subsidy on premium, benefits to individuals only for two animals and maximum of three years, Animal >1500 litres yield was considered high yielding	
2006-07	Livestock insurance scheme	Introduced in 100 districts of India on pilot basis. This scheme continued and was further extended to the other districts of the country	Main objective was to cover the risk of any loss to farmer, and to demonstrate the benefit of insurance.
2007	National policy for farmers, 2007	This aims to improve viability of farming through sustainable development of agriculture sector with the main goal to improve the welfare of farmers and farm income, also to provide for sustained development of the livestock and fisheries sectors	
2013	National Livestock Policy, Dept. of Animal Husbandry & Fisheries, Ministry of Ag. & Cooperation, New Delhi	It has been formulated to have a policy framework for improving productivity of the livestock sector in a sustainable manner. Insurance of animals was given specific thrust.	
2016	Pradhan Mantri Fasal Bima Yojana, Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare	Expected to cover livestock also.	Impact is yet to be seen.

Sources: Sharma, A. (2010); and Basic Animal Husbandry Statistics, Department of Animal Husbandry, Dairying and Fisheries, Government of India; dahd.nic.in.