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Review Article

Status of Livestock Insurance in India and A Complete Guide: An Evidence-Based Review

Amandeep Singh[1], Pranav Kumar[2], Harshit Kumar[3], Avinash Neeraj[4], Puspendra Kumar Singh[5] and Gurpreet Kour[6*]

[1]Veterinary Assistant Surgeon, Department of Sheep Husbandry, Government of Jammu & Kashmir, INDIA
[2]Assistant Professor, Division of Veterinary & Animal Husbandry Extension Education, FVSc&AH, SKUAST-J, R.S. Pura, Jammu, Jammu & Kashmir, INDIA
[3]PhD Scholar, Division of Animal Genetics, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, Uttar Pradesh, INDIA
[4]Senior Veterinary Officer, Department of Animal Husbandry, Dairying and Fisheries, Port Blair, Andaman & Nicobar Islands, INDIA
[5]Assistant Professor, Department of Veterinary & Animal Husbandry Extension Education, Bihar Animal Science University, Patna, Bihar, INDIA
[6]PhD Scholar, Department of Animal Genetics & Breeding, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab, INDIA

*Corresponding Author: gurpreetkour1469@gmail.com

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Abstract

Thousand precautions seem worthless when accidents occur. An iota of 'risk' can lead to accidents which may be disastrous for an individual farmer. Majority of the rural farmers have single livestock unit or may be two. Any uneven situation or natural calamity whether disease outbreak, accidental fire, earthquake, cyclones, floods, etc. may lead to loss of animal life, ultimately distressing the poor farmer whose sole source of income perishes. To manage these inadvertent situations and safeguard their livelihood, it becomes mandatory for the livestock farmers to ensure the safety of their livestock by insuring them. Livestock sector plays an eminent role in India's economy and also in the welfare of the rural population. Not only it provide the farmers with nutritional and livelihood security but can also be sold for earning money when there is need. Thus keeping in mind the sustainability of livestock, it is imperative to urge farmers for livestock insurance.

Keywords: Farmer, Insurance, Income, Livestock, Natural Calamity, Safety

Introduction

The premier organization of agricultural research i.e. the Indian Council of Agricultural Research has notified fifteen agro-climatic zones in India. Being such a diverse country according to agro-climatic zones, the environmental variance has played its role in the creation of region-specific breeds and strains of livestock which are acclimatized accordingly. But in case of calamitous conditions, the livestock are subjected to risks and those risks are for both livestock and farmers. Therefore, it becomes essential for the farmers to insure their livestock.

As far as the history of insurance is concerned, the practice was instituted by ancient Babylonians around 2100 BC as business practice called "Bottomry" for all practical purpose a form of marine insurance. By the middle of the 14th century, as evidenced by the earliest known insurance contract i.e. in Genoa (1347) marine insurance was common among maritime nations of Europe. Loyola's of London, the largest marine insurer today, was established in 1688 in a coffee shop in London. The British brought insurance to India in 1818 replete with imperialist prejudices. The Oriental Life Insurance Company, the first insurance company in the country insured only European widows. British insurers eventually begun ensuring Indian lives but for a premium that was 15 to 20 percent higher than that payable by the British. The Insurance Act, 1938 introduced state controls on insurance but failed to safeguard policy holder's interests.

On 19th January, 1956 the life Insurance business was nationalized by establishment of Life Insurance Corporation (LIC). General Insurance Company (GIC), established in 1972 made general insurance including livestock insurance available in the country. The GIC and the four subsidiaries *vis-a-vis* National Insurance Company Ltd., The New India Assurance Company Ltd., The Oriental Insurance Company Ltd., and United India Insurance Company Ltd., here by known as National, New India, Oriental and United India have taken the responsibilities of insuring the rural masses against the growing risks in the areas of personal, property, livestock, and packages. In 1997, Insurance regulator IRDA (Insurance Regulatory and Development Authority) was set up. In 2002, banks were allowed to sell insurance plans.

Types of Rural Insurance

As per the General Insurance Corporation (GIC) rural insurance is classified in to six major segments given as-

***Livestock Covers*:** Cattle Insurance, Sheep / Goat Insurance, Pig Insurance, Camel Insurance, Elephant Insurance, Horse/Pony/Mule/Donkey/Yak Insurance, Rabbit Insurance, Pet Dog Insurance, Breed Insurance, Stock Insurance

***Bird Covers*:** Poultry Insurance, Duck Insurance, Quail Insurance

***Sub-animal Covers*:** Sericulture Insurance, Honey Bee Insurance, Inland fresh water fish Insurance, Brackish water prawn Insurance

***Human Covers*:** Janata Personal Accident Insurance, Gramin Accident Policy Insurance, Composite Rural Package Insurance, Personal Accident Social Security Insurance

***Plant Covers*:** Plantation / Horticultural Insurance, Specific Clause for: Banana, Sapota (Chiku), Citrus, Rubber, Eucalyptus, Sugar Cane, Teakwood, Plantation (inputs) Insurance, Apple Insurance, Tea Plantations

***Other Rural Covers*:** Kisan Agricultural Pumpset Insurance, Insurance for Animal Driver, Cart/ Tonga Hut Insurance, Salt-Works Insurance, Failed well Insurance, Insurance for Bio-Gas Plant, Insurance for Handloom weavers.

Insurance Schemes by Government of India

Livestock sector in India is considered as source of food security, therefore, its safety becomes an important aspect (Ahmad *et al.*, 2019). Thus, Government of India (GoI) initiated two schemes to provide insurance to cattle rearers and sheep breeders against income losses due to death of sheep and cattle i.e. the Livestock Insurance Scheme and Sheep Insurance Scheme. Centrally Sponsored Scheme (CSS) on Livestock Insurance on a pilot basis was launched during 2005-06 and 2006-07 in 100 selected districts of the country (Choudhary and Srinivasan, 2011). The scheme

was restricted to high yielding cattle and buffaloes only (1500 liter per lactation). This scheme was reviewed from 100 districts to 300 districts and eventually to all the districts and included five milch animals from two animals. The scheme was implemented in all the districts of the country from 21st May, 2014. Animals covered under any other insurance scheme were not considered under this scheme. The involvement of veterinary officer in the scheme was from beginning to end. Under the scheme, the crossbred and high yielding cattle and buffaloes were being insured at maximum of their current market price. The premium of the insurance was subsidized to the tune of 50 percent. The entire cost of the subsidy was borne by the Central Government. The benefit of subsidy was being provided to a maximum of five animals per beneficiary for a policy of maximum of three years. The scheme is now subsumed as a component titled Risk Management and Insurance under the sub-mission on livestock development of National Livestock Mission (Annual Report, DADF, 2017). The component and pattern of assistance under Livestock Insurance Scheme is presented in Table 1. At national level, only 6 percent of the animal heads (excluding poultry) have insurance cover (Bora, 2017).

Table 1: Component and pattern of assistance under Livestock Insurance Scheme

Component	**Pattern of assistance**
Premium rates	*Normal areas*
Premium rates for one year policy in	Central share 25%, State share 25% and Beneficiary share 50% for APL, and Central share 40%, State share 30%, and Beneficiary share 30% for BPL / SC / ST
Normal Areas - 3.0%	*NER / Hill areas / LWE affected areas*
NER / Hill areas / LWE affected areas -3.5%,	Central share 35%, State share 25% and Beneficiary share 40% for APL, and Central share 50%, State share 30%, and Beneficiary share 20% for BPL / SC / ST
Difficult areas - 4.0 %	*Difficult Areas*
Premium rates for three year policy in	Central share 45%, State share 25% and Beneficiary share 30% for APL, and Central share 60%, State share 30%, and Beneficiary share 10% for BPL / SC / ST
Normal Areas - 7.5%,	
NER / Hill areas / LWE affected areas - 9.0%	
Difficult areas - 10.5 %	

NER: North Eastern Region; LWE: Left Wing Extremism; (Source: Vikaspedia.http://vikaspedia.in/agriculture/agri-insurance/livestock-insurance. Accessed 06 July, 2019)

The Sheep Insurance Scheme was introduced by the Government of India in the 11th plan. The sheep insurance scheme provides insurance coverage against death of sheep in the age group of 1 to 9 years in the area covered under the Central Wool Development Board. The period of insurance is 12 months. The premium per sheep for the insurance is Rs. 44 of which Rs. 19 is contributed by the beneficiary and Rs. 25 by Government of India. Against this premium, the insuree is entitled to a compensation of Rs. 1,200 per sheep in the event of death of sheep. The scheme is implemented through the Central Wool Development Board and operated through insurance companies. The Oriental Insurance Company of India has been selected by the Central Wool Development Board, Ministry of Textiles to operate the scheme. Under Sheep Insurance Scheme, about 4 lakhs of sheep were covered by the end of March 2009, which constituted less than 1 per cent (0.7 per cent) of the total sheep population of the country (Choudhary and Srinivasan, 2011). For Annual Plan 2015-16, the Central Wool Development Board targeted to cover 10,000 sheep breeders with total financial allocation of Rs. 25 lakhs. The Board had benefited 9,545 sheep breeders by utilizing unspent fund available with the Life Insurance Corporation of India (LIC) under Sheep Breeders Insurance scheme during 2015-16 (35th Governing Body Meeting, CWDB, 2016).

Procedure of Claim under Livestock Insurance Scheme

An animal will be insured for its current market price. The market price of the animal to be insured will be assessed jointly by the beneficiary and the insurance company preferably in the presence of the Veterinary Officer or the Block Development Officer (BDO). The minimum value of animal should be assessed by taking Rs.3000 per liter per day yield of milk or as per the price prevailing in the local market (declared by Government) for cow and Rs.4000 per liter per day yield of milk or as prevailing in the local market (declared by Government) for buffalo. The market price of pack animals i.e. horses, donkey, mules, camels, ponies and cattle/buffalo male and other livestock such as goat, sheep, pigs, rabbit, yak and mithun are to be assessed by negotiation jointly by owner of animal and by insurance company in the presence of veterinarians. In case of dispute, the price fixation would be settled by the Gram Panchayator BDO.

The animal insured will have to be properly and uniquely identified at the time of insurance claim. The ear tagging should, therefore, be full proof as far as possible. The traditional method of ear tagging or the recent technology of fixing microchips could be used at the time of taking the policy. The cost of fixing the identification mark will be borne by the Insurance Companies and responsibility of its maintenance will lie on the concerned beneficiaries. The nature and quality of tagging materials will be mutually agreed by the beneficiaries and the Insurance Company. The tag already available on animal may be utilized with unique identity number, subject to the condition that it is mutually agreed by farmer and agency and there shall not be any dispute in settlement of claims on account of utilization of existing tag.

While processing an insurance proposal, one photograph of the animal with the owner and one photograph of the animal clearly with the ear tag visible shall be taken at the time of processing the insurance documentation. In case of sale of the animal or otherwise transfer of animal from one owner to other, before expiry of the insurance policy, the authority of beneficiary for the remaining period of policy will have to be transferred to the new owner.

Only four documents would be required by insurance companies for settling the claims viz. intimation to the insurance company, insurance policy paper, claim form and post-mortem report. In case of claim becoming due, the payment of insured amount should be made within 15 days positively after submission of requisite documents. If an insurance company fails to settle the claim within 15 days of submission of documents, the insurance company will be liable to pay, a penalty of 12 percent compound interest per annum to the beneficiary.

Situation in Indian States Related to Livestock Insurance

In case of Indian states, although the situation is uneven but prospectively better. It is elicited from the fact that in 2016, Karnataka decided to implement the Livestock Insurance Scheme to encourage farmers to insure their milch cattle and buffaloes. Under the scheme, a maximum of five cattle/buffaloes would be covered by a farmers' family (Prabhu, 2015). Further, in Bihar and Orisa, *Pradhan Mantri Fasal Bima Yojana* has been implemented in 2016 and these states are looking forward for the central livestock insurance policy to get doled up (Mukherjee, 2016). Khan *et al.* (2013) in Central India reported that most of the farmers were willing to get their cattle and buffaloes insured. In Gujarat, cattle insurance was availed due the motivation of Village Cooperative Society (VCS). Insurance was sold on partner-agent model and that too from a single company with whom VCS had a close tie-up (Trivedi and Soni, 2014). The condition of livestock insurance in the state of Punjab is better than many states as 4,53,100 animal heads in total were insured by the four subsidiary insurance companies of General Insurance Corporation of India (GIC) namely New India Assurance Company Ltd., Oriental Insurance Company Ltd., United India Insurance Company Ltd. and National Insurance Company Ltd. (Mohapatra *et al.,* 2014). In Haryana and Rajasthan, the extent of livestock cover is poor and further the renewal of insurance policies by policyholders adds to the dismay (Chand *et al.,* 2016). In the context of livestock insurance, the Government of Rajasthan supports two insurance schemes *Kamdhenu* and *Bhais Bima,* which provides insurance against death of cows and buffaloes and is similar to the livestock insurance scheme of the Central Government. For sheep too, the Rajasthan Government's *Avika Kavach* scheme provides insurance against death and disability of sheep as in the Sheep Insurance Scheme of the Central Government (Choudhary and Srinivasan, 2011). The number of animals insured in different states of the country are presented in Table 2 and 3.

Basunathe and Tripathi (2017) conducted a study in Maharashtra and found that majority of the respondents (82.67%) considered information on insurance, agencies and insurance schemes for livestock in aAQUA as 'most appropriate' need in Warna Wired Village project. Further, Jhirwal *et al.* (2018) have reported an increase in poultry enterprises but low level of knowledge among farmers. Similarly, knowledge as a constraint was reported among dairy farmers by Minhaj *et al.* (2019). Therefore, one aspect is knowledge enhancement and other is information dissemination which will boost the insurance segment in livestock sector. Kumar *et al.* (2018) have reported that motivation plays a central role in adoption of insurance among farmers.

Table 2: Year wise status of insurance cover in different states of India from 2006-07 to 2013-14

S. No.	States/UTs	Number of animals insured - 2006-07	Number of animals insured - 2007-08	Number of animals insured - 2008-09	Number of animals insured - 2009-10	Number of animals insured - 2010-11	Number of animals insured - 2011-12	Number of animals insured - 2012-13	Number of animals insured - 2013-14
1	Andhra Pradesh	117455	67324	71937	262338	203970	115738	170267	250000
2	Arunachal Pradesh	1012	891	955	150	80	0	1050	707
3	Assam	1138	432	17470	20947	30641	34696	41000	25000
4	Bihar	10484	3251	11	893	1808	3519	3000	797
5	Chhattisgarh	6022	3428	0	4172	4873	5897	6000	6609
6	Gujarat	20351	5285	0	57835	83451	114000	50000	100000
7	Haryana	64161	66791	0	53139	50671	54114	80750	57711
8	Himachal Pradesh	14177	25608	21284	13435	10608	13382	19380	8542
9	Jammu & Kashmir	1022	6111	1662	12128	5239	0	0	0
10	Jharkhand	2814	20	0	210	1878	2201	1545	726
11	Karnataka	9487	13853	0	16043	67877	79315	80000	95000
12	Kerala	67206	29804	11729	27742	115031	99504	88299	120000
13	Madhya Pradesh	10169	4310	30972	21390	42415	21119	28044	33111
14	Maharashtra	33754	27936	0	2294	14872	22049	18774	16973
15	Manipur	184	210	102	250	109	80	75	0
16	Meghalaya	124	326	398	1158	1362	209	189	233
17	Mizoram	591	173	0	0	105	43	922	722
18	Nagaland	3567	4993	3140	4460	1612	4833	14928	4923
19	Odisha	20396	27865	12710	38150	7944	24498	45036	30000
20	Punjab	13701	1276	9116	10160	7059	27152	11326	10000
21	Rajasthan	12211	17280	2158	11904	22180	28643	19140	20671
22	Sikkim	2310	2013	313	1386	1446	565	389	1674
23	Tamil Nadu	90072	119032	156519	89649	92589	110572	80702	150000
24	Tripura	2090	1731	0	535	2226	1796	375	0
25	Uttarakhand	3053	4362	3525	2966	4264	4084	2779	5000
26	Uttar Pradesh	23443	16873	53719	7808	26955	10752	21640	50000
27	West Bengal	2354	1100	5	20876	15058	35203	17390	100000
All India	All India	533348	452278	397725	682018	816323	813964	803000	1088399

(Source: Year wise status of insurance cover in different states of India from 2006-07 to 2013-14. https://data.gov.in. Accessed 01 July, 2019)

Table 3: Year wise status of insurance cover in different states of India from 2014-15 to 2016-17 under National Livestock Mission

S. No.	State	Number of animals insured - 2014-15	Number of animals insured - 2015-16	Number of animals insured - 2016-17
1	Andhra Pradesh	-	1,02,876	891
2	Arunachal Pradesh	2,650	-	-
3	Assam	97,500	-	-
4	Chhattisgarh	-	3,663	846
5	Gujarat	-	-	0
6	Himachal Pradesh	-	-	-
7	Karnataka	-	5,40,000	92,166
8	Kerala	--	-	-
9	Madhya Pradesh	4,81,826	37,486	59,113
10	Maharashtra	90,913	19,211	2,97,860
11	Odisha	60,000	-	-
12	Punjab	50,000	-	-
13	Rajasthan	-	0	26,074
14	Sikkim	-	-	-
15	Tamil Nadu	5,09,000	32,007	2,02,376
16	Telangana	-	-	-
17	Uttarakhand	-	30,287	24,682
18	Uttar Pradesh	-	-	-
19	West Bengal	1,86,360	-	40,546
20	Puducherry	2,500	-	-
	Total	14,80,749	7,65,530	7,44,554

(Source: LokSabha Unstarred Question 2827 answered on March 13, 2018.https://eparlib.nic.in/bitstream/123456789/771781/1/AU2827.pdf. Accessed 17 June, 2019)

Private Sector in the Field of Livestock Insurance

The privatization of insurance sector with insurance reforms were introduced on the recommendation of Malhotra Committee headed by former Governor of Reserve Bank of India (RBI), Shri R.N. Malhotra. With the privatization of insurance and awareness amongst the livestock farmers, many insurance companies are now providing insurance services to livestock farmers. The mandate and guidelines of all the companies are same and their insurance schemes cover milch cows and buffaloes whether indigenous, exotic or cross-bred. Many companies have also started insuring poultry and other livestock species. The sum insured is equal to the market value of the animal and indemnity is limited to 75 per cent of the sum insured in case of PTD i.e. Permanent Total Disability. The basic premium rate is 4 per cent of the sum insured. The premium rates may vary from company to company and details are provided in Table 4. Intentional slaughter, clandestine sale, malicious or willful injury, overloading, unskillful treatment, war, etc. are the major exclusions of the policy against which the sum cannot be claimed (Cattle Insurance, 2017). The following are the insurance companies which are undertaking livestock insurance:

Companies Working under General Insurance Corporation of India (Public Sector)

a) The Oriental Insurance Company Limited
b) New India Assurance Company Limited
c) National Insurance Company Limited
d) United India Insurance Company Limited

Banks and Private Companies

a) SBI General Insurance
b) IFFCO-Tokio General Insurance Company Limited
c) Bajaj-Allianz Tokio General Insurance Company
d) Future Generali Total Insurance Solutions
e) Royal SundaramTokio General Insurance
f) ICICI Lombard Rural Insurance
g) TATA-AIG Rural Insurance
h) HDFC-ERGO Rural Insurance

Table 4: Premium rates of different insurance companies

Insurance Company	Premium Rate (% of Sum Insured)	
	For 01 Year Coverage	For 03 Year Coverage
The New India Insurance Co. Ltd.	2.69	6.85
Oriental Insurance Co. Ltd.	4	10.2
National Insurance Co. Ltd.	4	10.2
United India Insurance Co. Ltd.	3.14	8.05
ICICI Lombard General Insurance Co.	3.86	9
TATA AIG General Insurance Co. Ltd.	4.25	10.59

(Source: Uttar Pradesh Livestock Development Board. http://upldb.up.nic.in/Achievements/Progress%20of%20Livestock%20Insurance%20Scheme.pdf. Accessed 07 June, 2019)

Evidences from the Recent Past Depicting Significance of Livestock Insurance

Since ancient times, disasters have been a part and parcel of human civilization. As the human race grew, the occurrence of disasters also kept on increasing affecting the livestock as well. State-wise details of loss of human lives, loss of livestock along with damage to property due to natural calamities like cyclonic storms, heavy rains, floods, landslides, etc. during 2017 to 2018 have been provided in Table 5. It is pertinent from table 5 that about 50638 cattle were lost in a year which in itself is a great loss and setback to the rural economy. This loss can be minimized if one insures its livestock through livestock insurance. Looking at the past, there have been many adverse situations demanding the need of livestock insurance for benefitting the resource poor livestock farmers. Data presented in Table 6 reflects the significance of livestock insurance and it can be interpreted that livestock insurance would have minimized the rural economic losses incurred due to the disasters, if farmers would have insured their livestock.

New Advances in Livestock Insurance
Index-Based Livestock Insurance (IBLI)

The Index-Based Livestock Insurance (IBLI) product leverages the strong correlation between a remotely sensed vegetation index and livestock losses associated with forage shortages to offer insurance coverage to pastoralists in regions without access to conventional insurance products. The IBLI product was first launched in January 2010 and is now available in several regions of Africa like Kenya and Ethiopia (Jensen *et al.*, 2015). IBLI contracts vary by region, but they are each developed to reflect deviations from historic averages of a remotely sensed and publicly available Normalized Differenced Vegetation Index (NDVI) measure of rangeland vegetation density. It is a product that is designed to protect against prolonged forage scarcity. IBLI triggers payment to pastoralists to help maintain their livestock in the face of severe forage scarcity. IBLI is insurance for drought only. Premium paid to get risk protection is non-refundable. The premium paid is not the loss of money as it gives the protection against drought risk which could occur anytime. IBLI has an annual contract and the annual premium provides cover only for one year. In order to get continuous protection, one must activate insurance contract annually by paying premium charged by the IBLI provider. IBLI covers the four key livestock types: camel, cattle, goats and sheep. However, these four livestock types are standardized into a unit known as a Tropical Livestock Unit (TLU) which is calculated as follows: 1 Cattle = 1 TLU: 1 Camel = 1.4 TLU: 1 Goat or 1 Sheep = 0.1 TLU. The payout is determined by the level of forage scarcity indicated by the index (Jensen *et al.*, 2015).

Table 5: State-wise details of damage due natural calamities during 2017 to 2018

S. No.	State	Lives lost (No.)	Cattle lost (No.)	Houses (No.)	Crops area (in lakh ha.)
1	Andhra Pradesh	31	55	6557	0.45
2	Arunachal Pradesh	60	1177	1463	0.41
3	Assam	160	2763	111070	2.8
4	Bihar	649	256	357197	8.1
5	Chhattisgarh	52	102	909	NA
6	Goa	1	NA	61	NA
7	Gujarat	229	15255	36710	6.45
8	Himachal Pradesh	75	199	2195	0.8
9	Jammu and Kashmir	7	4	90	NA
10	Jharkhand	12	3	2668	NA
11	Karnataka	70	745	1533	NA
12	Kerala	119	5	6324	0.078
13	Maharashtra	134	164	NA	NA
14	Manipur	19	10752	19793	0.89
15	Meghalaya	11	NA	163	NA
16	Mizoram	13	14	5437	0.11
17	Nagaland	22	665	7700	0.05
18	Odisha	8	399	562	0.42
19	Punjab	4	6	34	NA
20	Rajasthan	80	5705	57989	7.34
21	Sikkim	11	80	910	0.02
22	Tamil Nadu	72	7654	14229	0.05
23	Tripura	17	13	3222	NA
24	Uttar Pradesh	121	154	56935	3.81
25	Uttarakhand	57	737	1380	NA
26	West Bengal	197	2075	497362	6.74
27	Lakshadweep	NA	NA	1022	NA
Total	Total	2231	50638	1193371	38.52

(Source: Disaster Management Division, Ministry of Home Affairs, Government of India. https://mha.gov.in/division_of_mha/disaster-management-division. Accessed 07 July, 2019)

Weather Indexed Livestock Insurance

Weather Indexed Livestock Insurance on the lines of Weather Indexed Agricultural Insurance can be prospectively initiated in the near future. The weather index is important because of the fact that in the changing environmental conditions, even the climate resilient livestock is not producing to its ability and hence, the need arise to assess the livestock species on their production potential and insure them on the basis of weather index.

Livestock Index Insurance Programmes

In countries such as Mongolia, traditional indemnity-based livestock insurance (based on individual losses) has proved ineffective because of the high cost of covering animals spread across vast areas as well as ex ante moral hazards (herders failing to protect their livestock) and ex post moral hazards (herders falsely reporting animal deaths). With technical assistance from the World Bank, Mongolia now offers a livestock index-based product (Bhat and Mukherjee, 2015).

Table 6: Disasters in various parts of India and losses thereof

Type of disaster	Year	State	Livestock fatalities	Economic losses	Reference
Cyclone Fani	May, 2019	Odisha	4.2 million birds and more than 6000 livestock died	Cyclone Fani may have caused the biggest-ever death of poultry in any disaster in Odisha amounting to more than Rs. 200 crores.	Mohanty, 2019
Floods and Landslides	August, 2018	Kerala	75,857 cattle died	The worst calamity in nearly 100 years has inflicted damages of up to Rs. 40,000 crore as per the initial estimates.	PTI, 2018; Hussain, 2019
Marathwada Drought	April, 2016	Maharashtra	More than 3.2 lakh cattle affected	Agriculture and allied services sector declined by 2.7 percent in the state.	Kakodkar, 2016
2015 South Indian Floods	December, 2015	Tamil Nadu, Andhra Pradesh	Roughly 98,000 livestock animals and poultry died	Losses ranged from Rs. 200 billion to Rs. 1 trillion.	Business Line, 2016
North Bengal Floods	August, 2015	West Bengal	22,716 livestock were lost	Damage to state was estimated to be Rs. 3,000 crore	Sphere India, 2015
Flood	July, 2015	Gujarat	81,609 cattle perished	Government suffered losses to the tune of around Rs. 2,000 crore	Firstpost, 2015
Cyclone Hudhud	October, 2014	Andhra Pradesh, Odisha	2831 animals and 24.43 lakh poultry died	A rapid damage needs assessment team of the World Bank has estimated the total damages to the tune of about Rs. 13,263 Crore (US$ 2155 million) to Hudhud.	National Disaster Management Authority, 2015
Kashmir Floods	September, 2014	Jammu & Kashmir	Nearly 7,000 large animals, 700,000 poultry birds and around 65,000 sheep and goats perished in the disaster.	Devastating floods caused an immediate loss of Rs. 5400-5700 crore to the state's economy.	Sphere India, 2014; PTI, 2014
Cyclone Phailin	October, 2013	Odisha	Livestock deaths included 1,425 large animals (cow/buffalo), 2,906 small animals (goats/sheep) and about 156,000 poultry.	The estimated livestock cost in the three most severely affected districts was about Rs. 138.2 million (US$ 2.23 million)	Government of Odisha, 2013
Flood	June, 2013	Uttarakhand	11,091 cattle/livestock were lost	Floods led to the loss of Rs. 12,000 crore to the tourism sector in the state. Different organizations identified a need for more than $661 million in recovery and reconstruction funds, catalyzing an immediate response on behalf of the government.	World Bank, 2014; Satendra*et al* 2015
Annual Brahmaputra Floods	2012 and onwards	Assam (worst hit)	673,329 cattle died and 2698,176 affected	398 animals died in Kaziranga National Park in 2017. The total losses due to floods and erosion amount to nearly Rs. 4659.47 crore	Purkayastha, 2017a; Purkayastha, 2017b

Pashu Dhan Bima Yojana

This scheme was started by IFFCO-TOKIO General Insurance Company Limited in 2009. This scheme covers the death of cattle due to disease or accident. It is a one-year credit linked cover for farmers with cattle loans. The sum

assured is the value of the loan; if the value of the cattle is higher than the loan, the farmer bears the difference as the policy only covers the loan value. The farmer has the option to opt for a higher sum insured based on the valuation of the cattle. The identification of the animal is done through a new technology, Radio Frequency Identification Devices (RFIDs). This technology consists of a microchip within a capsule. The capsule is inserted beneath the hide of the cattle behind the ear with the help of a syringe. Since the RFID capsule is inserted beneath the skin of the animal, the risk of it falling off or being removed is mitigated. The premium has been set at 3-5 percent of the sum assured which is lower than the existing 5-7 percent in the market. The insurance product is distributed through the Primary Agricultural Cooperative Societies. On an average the claim settlement takes 8 to 30 days. The multiyear policies are offered at a discounted rate. The various services like enrolment, claim processing, value added services are available at the doorstep through the companies own network of relationship executives or bima sahayaks who run the bima kendra and are accessible by a phone call from the farmer (Mohapatra and Dhaliwal, 2014).

Conclusion

India being a diverse country with varied climatic zones, soil cover and livestock aggregation require an effective safeguard from environmental variations, natural disasters and sudden outbreaks of fatal diseases pertaining to livestock. This can only be achieved by creating awareness among the rural livestock farmers and motivating them to insure their animals. There is lack of knowledge among farmers about certain scientific aspects of livestock farming, livestock insurance being one of those. Studies have suggested that adoption of livestock insurance among livestock owners is mainly effected by motivation by friends and community members followed by high probability of disease occurrence in particular area, effective risk assessment and previous experience of livestock owners. Knowledge of any practice plays an important part in adoption, therefore, focus shall be made on increasing the knowledge domain of the farmers through awareness camps and trainings. Further, the insurance institution should take measures like developing infrastructure, to reduce the premium and appoint proper staff to guide the farmers for the insurance. Although the central and the state governments are taking up policies to cater the needs of the livestock owners but still reaching to the grassroots is a challenge. To increase the insurance coverage, to equip the livestock farmers with latest knowledge about insurance, to assess their information needs pertaining to insurance and to address them, seem to be the few decisive challenges but can eventually be fulfilled by better extension and advisory services.

Conflict of Interests

There is no conflict of interest.

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