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Research Article

Farmers' perception on status of livestock insurance in Surkhet district, Nepal

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ABSTRACT

Livestock is an important sector for sustained livelihoods of Nepalese people, particularly for small holder farmers. However, occurrence of any disease or disaster may get livestock as the source of sufferings. Livestock insurance can come up as an effective tool for risk management in livestock sector. This study covers the current status and perception of the farmers on livestock insurance. A total of 45 livestock farmers were selected purposively from three municipalities (15 from each municipality) in Surkhet district as Birendranagar Municipality (Birendranagar, Saldada), Bheriganga Municipality (Maintada) and Lekbeshi Municipality (Lekfarsa, Dasarathpur and Satakhani). Data was collected by face-to-face interview with farmers (45), focus group discussions (2) and key informant survey (4). Mortality, high cost of animal, production loss and price risk were the major risks encountered in the farm. Utilization of their saving and loan reimbursement was preferred by the farmers for capital management. Adoption of insurance among livestock owners was found motivated mainly by cooperatives, friends and family. Among twenty insurance companies offering insurance policies in Surkhet district, Everest Insurance Company Limited was popular. Only few farmers were found having complete awareness on livestock insurance. Majority of farmers agreed on insurance as an effective tool for risk management whereas only 64.44% of total respondent farmers were insuring their livestock, out of which 37.93 % had renewed their insurance package. Goats were mostly insured. This study indicates that better coverage, further process simplification, and perspicuity of livestock insurance scheme including awareness raising are essential for livestock insurance to approach higher level of insurance adopters.

Keywords: Risk, Risk mitigation, Livestock, Livestock insurance, Adopters

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INTRODUCTION

Livestock sector in Nepalese farming system is inherent in nature contributing 24 percentage of the total agricultural GDP (Pradhanang *et al*., 2015a). Nepal consist an average of 5.8 heads of livestock and poultry per household, having one of the highest livestock to humans' ratio in Asia (IRIN, 2013). Nepal had an estimated 6,430,397 head of cattle, 3,174,389 buffaloes, 48,865 yaks, 612,884 sheep, 11,225,130 goats and 870,197 pigs (MoLD, 2017). In general, animal husbandry is closely linked to risk management as disease and mortality put pressure to farmers (Pradhanang *et al*., 2015b). Traditional risk management strategies, ex- post

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management strategies and emergency relief provided by government have not been fully successful in preventing serious economic loss or speeding loss recovery (Wenner, 2005). So, farmers either reduce the risk or adopt coping strategy to manage the risk among which, risk sharing through insurance is popular (Adhikari & Bidari, 2018; Alderman & Paxson, 1994).

Livestock Insurance is one of the working areas of Ministry of Livestock Development decided by the Nepal Government in 9th Poush, 2072 (MoLD, 2072). Out of 19 non-life insurance companies, 17 have provided agricultural insurance, with insurance coverage slightly higher for livestock than crop sector (Y. N. Ghimire, Timsina, & Kandel, 2016). Organizations like Small Farmers' Development Bank (SFDB), Micro-Finance Institutions (MFI), Community-based organization (CBOs) and Financial Intermediary Non-Governmental Organizations (FI-NGOs) sponsored by Community Livestock Development Projects (CLDPs) provide livestock insurance services on a limited scale (World Bank, 2009). "As per the Insurance board directive, livestock and poultry insurance will provide the coverage to all types of cows, oxen, buffaloes, sheep, goat, swine, yak, chicken and ducks on the basis of sum insured fixed by the Insurance board. Maximum sum insured for high-breed dairy cow and buffalo are Rs 150,000 and Rs 125,000, respectively. Similarly, sum insured for sheep and goat raised for meat production cannot exceed Rs 8,000, while maximum insurance coverage for different types of chicken and duck has been fixed at Rs 1,200 and Rs 700 respectively."(Kafle, 2013)

Animal death by a stated cause in livestock insurance policy sets a lump sum benefit payable to the insured, hence gives financial security to farmers (Frey and Black, 2006). Even under the stable production status, fluctuation in milk and feed prices can subject dairy farmers to risk (Valvekar *et al.*, 2010). High the risk, higher is the chance of insuring. "The farmer pays the premium to the insurer to share his risks. Insurer then issues an insurance policy specifying risks coverage, the insured amount and when the policy responds to a loss for the insurance period. The insurance amount is calculated based on animals' productivity or market value or any other values. A veterinary certificate and a written post mortem report are required for the insured to prove and claim the loss." (Rangoma, 2018) In case of animal sale or transfer of ownership, if the term of insurance policy has not expired, then the benefit of the remaining period of the insurance policy can be transferred to the new owner (Healthnewsreporting, 2019). Provision of subsidy in premium rate has made way lot easier for farmers to insure their livestock. New insurance schemes like provision of health insurance for farmers whose livestock are insured motivate them for adoption of the livestock insurance. Despite being livestock insurance scheme a relevant strategy to address different risks related to livestock rearing, less attention has been paid to the livestock insurance needs of the dairy farmers (Khan *et al*., 2013). Although livestock farming is general in Nepal, but still insurance coverage is low with 0.1 percent of the national herd (World Bank, 2009). With more than 3.7 million households in Nepal own a certain type of livestock, there is a large possibility of livestock insurance market in Nepal (Ghimire & Kumar, 2014). For this, study on livestock farmers risk attitude and their perceptions on livestock insurance are required. Similarly, factors affecting livestock insurance adoption among the population is needed for making further effective efforts. Likewise, level of satisfaction among insurance adopters and constraints for not adopting it are also needed to be studied. In this aspect, limited research has been done in Surkhet district.

In this context, a study was conducted to fulfill these research gaps. The study aimed to address the perception of farmers and status of livestock insurance of Surkhet district enabling better

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understanding of the users and possible adopters leading further possible transformations on the livestock insurance. Also factors and constraints affecting livestock insurance were identified.

METHODOLOGY

Study area, sample size, and data collection technique

The study was conducted in Birendranagar Municipality (Birendranagar, Saldada), Lekbeshi Municipality (Lekhfarsa, Dashrathpur, Satakhani) and Bheriganga Municipality (Maintada) of Surkhet district. These sites were considered with possibility of having high prosperity in livestock sector due to its increasing population and moderate climate. The primary data was collected through household survey (HHS), focus group discussion (FGD) and key informant survey (KIS) using pretested semi questionnaire via face-to-face interview during June-July, 2019. From each municipality, 15 livestock farmers were selected purposively. Household survey was conducted to collect information from 45 farmers. Selected farmers were members of cooperatives and involved in livestock rearing. Farmers having both little and lots of experience in livestock rearing were selected to make sample more inclusive. Similarly, two FGDs and four key informants' interviews were conducted. The questionnaire survey focused on farmers' perception on risk and associated risk management strategies in livestock farming. Status of livestock insurance, factors deterring the adoption of livestock insurance, constraints in the adoption of livestock insurance and measures to promote the livestock insurance program were assessed.

Data management and analysis

Descriptive statistics as frequency, percentage and averages were used to assess farmers' perception on risk and its associated management strategies. Socio-economic variables and other determining factors for farmers' decision in the adoption of livestock insurance were analyzed. Constraints of livestock insurance and their associated solution measures were categorized as strongly agree, agree and disagree which were analyzed using percentage. MS-Office was used for data processing, analysis and interpretation of information and findings.

RESULTS AND DISCUSSION

Socio-economic profile of the livestock farmers

Age group less than 25 years was supposed to be studying or engaged on other occupations. Middle aged group was more subjected to new agricultural products like insurance rather than old aged farmers with 46.67%. 53.33% were female whereas remaining 46.67% were male. Census of 2011 by Central Bureau of statistics also showed 51.7% of females and 48.3% of males contributing to Surkhet population. Both genders were found equally participating in livestock insurance. The average household size was 5.4 which is greater than census 2011 (4.81). Majority of Brahmins (26.6%) were insuring their livestock whereas little participation of Dalit and Janajatis' was found. So, more inclusive programs are recommended. Farmers from joint family were adopting insurance comparatively more than that of nuclear family farmers as 37.78% to 26.67%. As illustrated in Table 1, farmers with higher education insured their livestock more compared to farmers with no or little education. Farmers who had received the trainings mostly were found insuring their livestock. Majority (46.67%) of farmers received no training followed by 40 percent to get training more than 3 times and 13.33 percent of farmers had training less than 3 times. It was found that several trainings were being conducted

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by cooperatives, insurance companies and I/NGOs. About 58% of insured farmers practiced income diversification with agriculture, business, service, labor and remittance. The main source of income of majority of farmers was agriculture and livestock.

Table 1: Socio-economic and demographic characteristics of livestock farmers

Variables		Livestock Insuring farmers (%)	Livestock Non-insuring farmers (%)	Total (%)
Age of HHS	25-45 yrs	46.67	6.66	53.33
	>45 yrs	17.78	28.89	46.67
Gender	Male	33.33	13.34	46.67
	Female	31.11	22.22	53.33
Family Type	Nuclear	26.67	15.55	42.22
	Joint	37.78	20	57.78
Ethnicity	Brahmin	26.67	17.77	44.44
	Chhetri	24.44	4.45	28.89
	Janajati	6.67	2.22	8.89
	Dalit	6.67	11.11	17.78
Education Level	Illiterate	11.11	4.45	15.56
	Primary	13.33	17.78	31.11
	Secondary	22.22	8.89	31.11
	Higher Secondary	17.78	4.44	22.22
Training	Yes	44.44	11.11	55.6
	No	20	24.44	44.44
Experience	10 yrs	35.56	17.78	53.34
	10-25 yrs	20	13.33	33.33
	>25 yrs	8.89	4.44	13.33
Income diversification	Yes	57.78	24.44	82.22
	No	6.67	11.11	17.78

Risk involved in livestock farming

The major risks identified in the livestock farming were mortality of animal (75.55%), production loss (64.44%), high cost of animal (68.69%) and price risk (66.66%). The study on livestock farmers of Netherlands also showed price and production risks as important source of risks (Meuwissen *et al.*, 2001). Injury to animal was not much risky as nowadays, they are reared in protective structures rather than in field or jungles. Frequent occurrence of disease was major problem as per 44.44% of the farmers. Diseases mostly occur in goats and hybrid cows rather than local cattle and buffaloes. Mastitis was mostly prevalent in the study area. This finding is consistent with those of Sahu (2017a) who argued that livestock disease, death and mastitis were the major risks encountered in the farm. Ghimire *et al*. (2016) also concluded disease as the major problem for livestock farmers.

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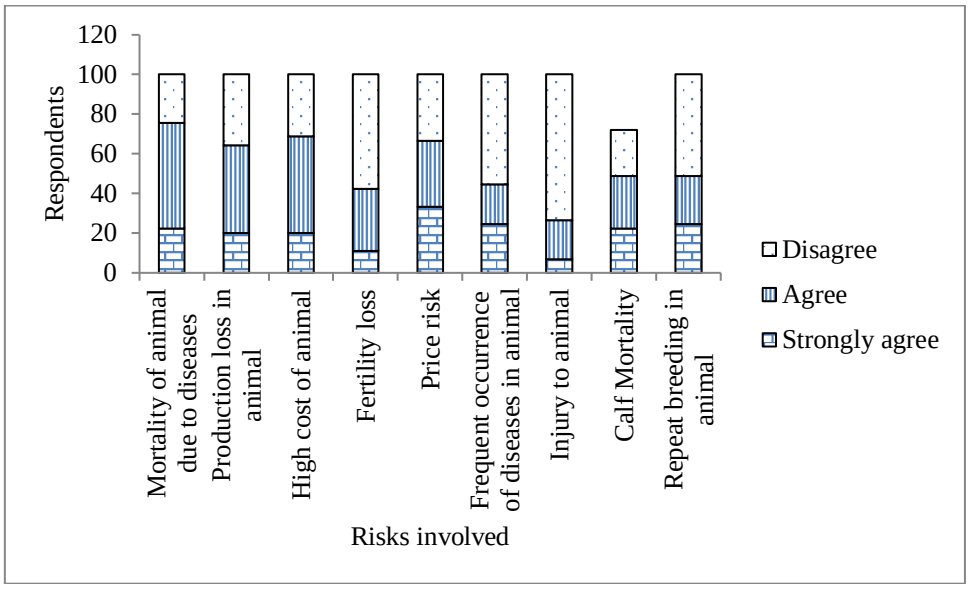

Figure 1: Distribution of the respondents according to risk involved in livestock farming

Risk mitigation strategies adopted by livestock farmers

Out of total respondents, 84.44% preferred utilization of their saving for capital management. Almost all the respondents (97.7%) denied the idea of sale of land. Whereas 8.89% of respondents disagreed on the utilization of saving were because their income was not enough for saving but limited upto consumption only. Similar result was found in a study conducted in Bhanjanagar by Sahu (2017b) where saving, loan from banks and sale of farm outputs were major risk mitigating tools. Income diversification, vaccination and treatment and livestock insurance were other strategies adopted by farmers besides strategies shown in figure 2. But in general, financial i.e. cash reserves were perceived more important than risk sharing which was also supported by Njavro *et al.* (2007).

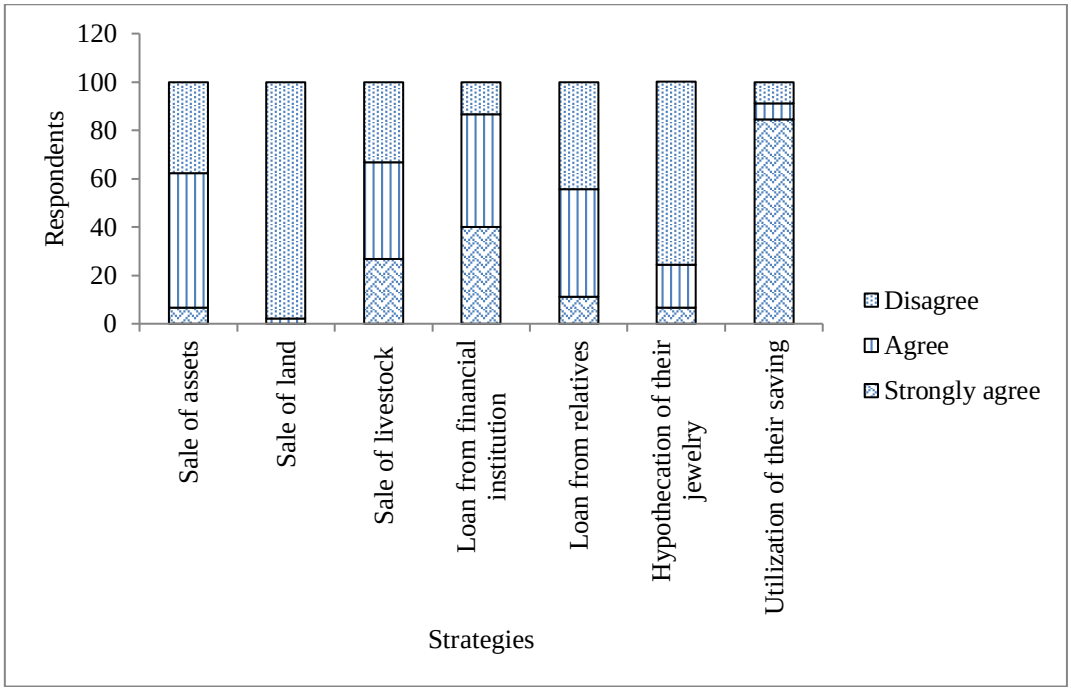

Figure 2: Distribution of the respondents according to risk mitigation strategies adopted

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Farmers' perceptions on effectiveness of livestock insurance and its adoption

About 86.67% of farmers responded insurance as an effective tool for risk management whereas 13.33 percent disagreed on it. But in the context of adoption, only 64.44 percent of farmers were found insuring their livestock while remaining 35.56 percent remained uninsured. Farmers had many reasons for not purchasing livestock insurance, including not being able to afford the cost of this extra coverage, or thinking their livestock will never be affected. Unable of livestock insurance affordance and thinking that it is not important were also reported by Nahas *et al*. (2018). Livestock of value more than NPR100,000 was out of coverage of insurance policy whereas calves and lambs upto certain age cannot be insured. In addition to it, some of the farmers were raising livestock for business purpose only. They used to buy livestock and rear them until they get buyer in higher rates. Government had made certain efforts like provision of same amount to cooperatives the amount they insure. Hence, cooperatives were active lately but still, an effective number of insurers were not obtained.

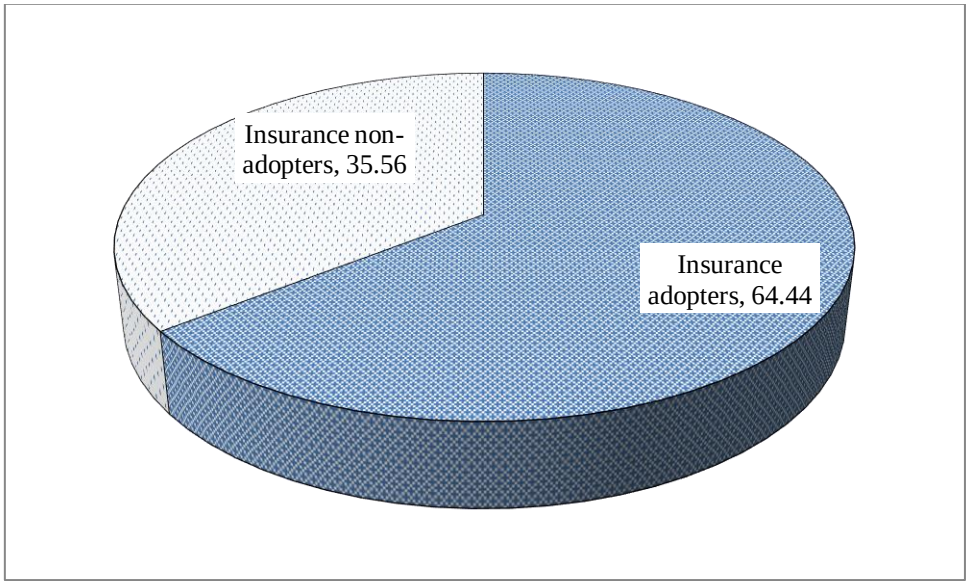

Figure 3: Percentage distribution of the respondents according to their insurance status

Status of insured livestock

Figure 4 indicates the percentages of insured and non-insured livestock population. About 7.89% of cattle, 17.48% of buffaloes, 22.28% of goats and 25% of pigs were insured. We could see that insured status of pig is the highest but they are reared by only few farmers. So, within the goat population, insurance status may be low but in comparison with others, goats are insured more in number. Goats were the most popular class owned by 78% of farmers to cattle (60%), buffalo (62.2%) and pig (8.9%). It may be because goats are more subjected to risks like frequent disease occurrences. Goats being small sized, light feeder and raised in large number along with lower insurance premium to be payed also support higher number of goats insured. Average of 2.8 cows per household, 2.2 buffaloes per household, 6.7 goats and 5.5 pigs per household were found in Surkhet. World Bank (2009) showed similar result with an average of 3 cows, 4.1 goats and 2.2 buffaloes per household in Nepal.

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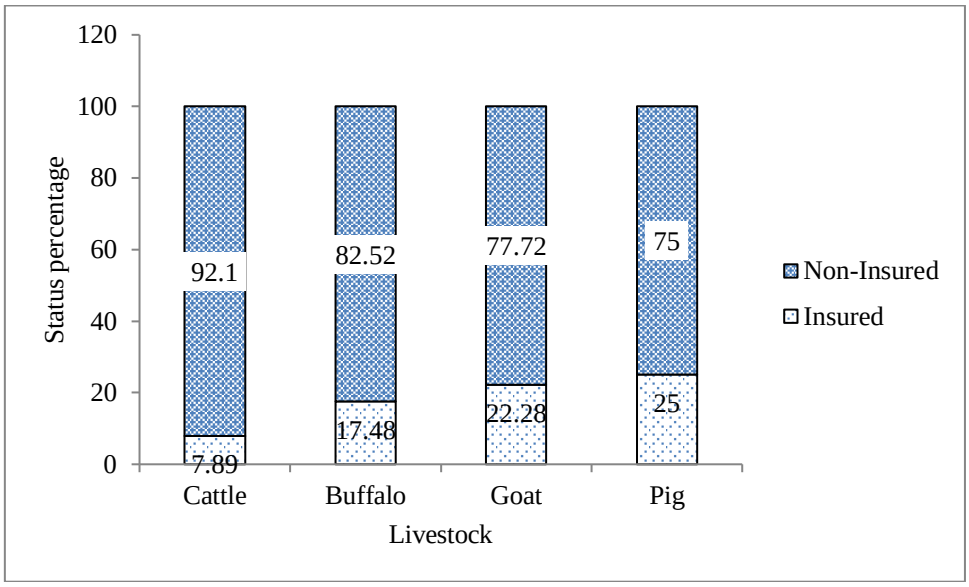

Figure 4: Distribution status of livestock based on insurance

Renewal status of livestock insurance

As reflected in Figure 5, 62.07% farmers were still running in their first year of insurance, 20.69% of respondents had renewed once, while 17.24 percent of respondents had renewal status of more than one year. Though the renewal percentage of insurers is low, it's encouraging that a high percent has adopted livestock insurance recently. However, there's complaint that livestock owners seem to insure their livestock typically for only one to three years after the loss sufferings.

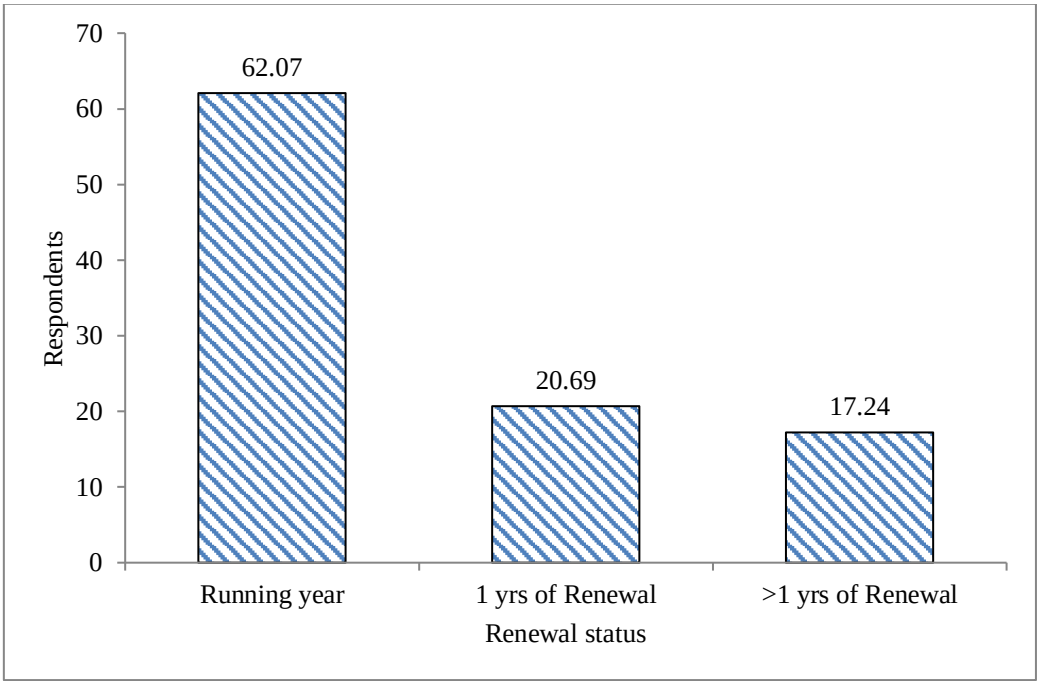

Figure 5: Percentage distribution of the respondents according to the insurances' renewal status

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The reason one may cancel his policy may be taking insurance as an investment rather than a protective activity. Many feel they are wasting their money on premiums keeping the likelihood of disaster so low neglecting its potential consequences. Chand (2016) also reported low renewal of livestock insurance in Haryana and Rajasthan.

Insurance companies working under agriculture and livestock sectors in Surkhet district

It was found that 20 different insurance companies had been working for livestock insurance in Surkhet district by namely as Ajod Insurance Company Limited, Everest Insurance Company Limited, General Insurance Company Limited, Himalayan General Insurance Company Limited, IME General Insurance Company Limited, Lumbini General Insurance Company Limited, National Insurance Company Limited, Neco Insurance Company Limited, Nepal Insurance Company Limited, NLG Insurance Company Limited, Oriental Insurance Company Limited, Prabhu insurance Company Limited, Premier Insurance Company (Nepal) Limited, Prudential Insurance Company Limited, Rastriya Beema Company Limited, Sagarmatha Insurance Company Limited, Sanima General Insurance Company Limited, Shikhar Insurance Company Limited, Siddartha Insurance Company Limited and United Insurance Company (Nepal) Limited. Since Everest Insurance Company was providing agricultural insurance service prior than other companies, it had gained much popularity. More than 70 percent of farmers were found choosing Everest Insurance Company Limited.

The insurance companies provided livestock insurance, covering cows, oxen, buffaloes, male and female yaks, sheep, goat, pig, chicken, swan and ducks based on sum insured fixed by beema samiti. Risks covered were fire, lightening, hail, flood, landslide, storm, hail storm, diseases and death. 75% of subsidy on premium amount was given by government. In case of loss, 90% of the claim amount was provided to the farmer. Cooperatives and insurance companies also offered livestock insurance in the form of guarantee to the farmers while giving livestock loans to them. They were also offering special facilities like health insurance of the livestock owners on insuring their livestock. Cooperatives were buying milk from the farmers who have insured their livestock from them. Special discount on medicine and feeds were made available to the livestock owners.

Information source of farmers for access to insurance schemes

All the respondents were informed about the livestock insurance through some way. While taking loan for livestock purpose from cooperatives, it was made compulsory to adopt livestock insurance for the loan approval. So, majority of farmers (42.22%) were informed about the livestock insurance through cooperatives. Friends and family members/ relatives (15.56%) were also important source of information to the farmers about insurance. Sources of information other than these were radio, television, newspaper etc.

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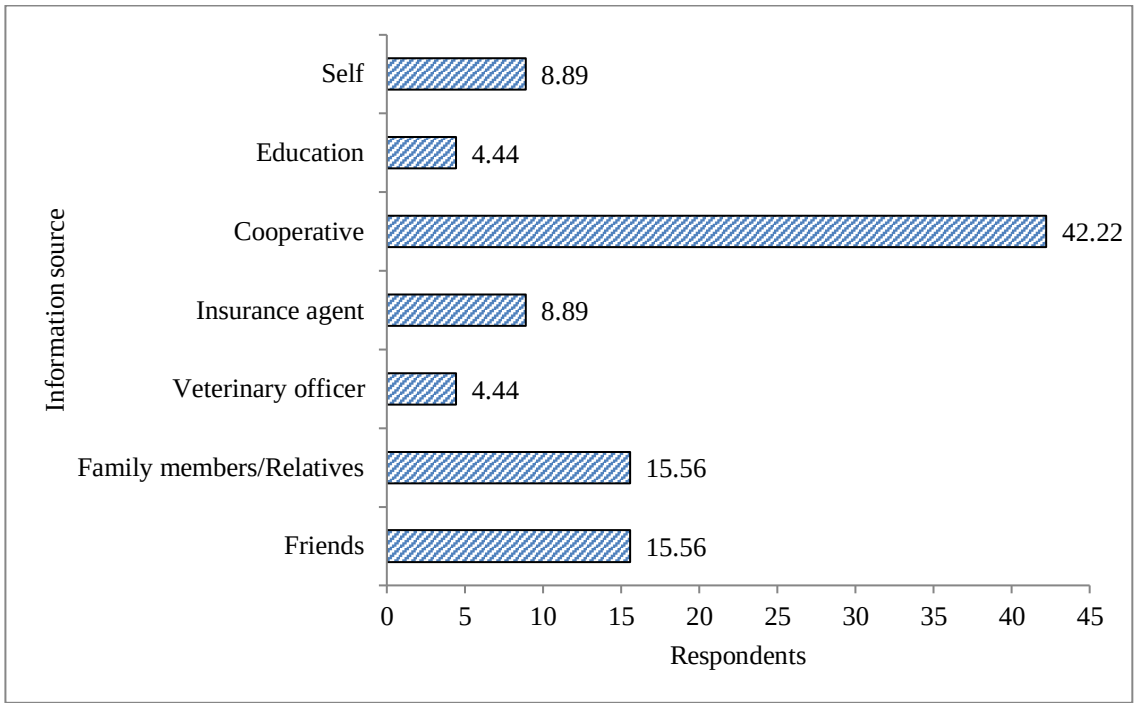

Figure 6: Percentage distribution of the respondents according to the information source

Awareness about livestock insurance among livestock owners

Almost all the livestock owners were aware that livestock can be insured but many were found not having complete knowledge on it. Half of the farmers were not aware about the livestock insurance coverage. Farmers did not study their insurance policy thoroughly i.e. its coverage, policy period, claim amount to be obtained and the procedure. All the farmers were informed about livestock insurance and its effectiveness, but not convinced for its adoption, so need of awareness through grass root level is suggested.

Table 2: Percentage of the respondents according to awareness about livestock insurance among livestock owners

Awareness about livestock insurance among livestock owner	Aware (%)	Not aware (%)
Can livestock be insured?	99.78	0.22
Dairy animal are covered under livestock insurance?	95.56	4.44
Complete knowledge for applying the insurance	48.89	51.11
Awareness about the complete process of livestock insurance	48.89	51.11
Amount of premium to be paid for livestock insurance	73.33	26.67
Regular payment of premium should be made for the continuation of livestock insurance	77.78	22.22
Assessment of loss determination after the animal casualty	46.67	53.33
Time of informing the insurance agents after the loss of animal	64.44	35.56
To whom you have to contact for getting the claim amount	77.78	22.22
Does livestock insurance cover the loss of animal due to lightening and poisoning?	48.89	51.11

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Level of satisfaction among livestock owner about the livestock insurance

None of the livestock farmers were completely satisfied regarding insurance facilities. Present premium rate was found satisfactory as per most of the farmers, whereas they had complained on the coverage of risks of livestock. But they suggested subsidy for livestock purpose as well like subsidy on feed, medicine or price of livestock rather than only on death of the livestock.

Findings were supported from the study of Kandel and Timilsina (2018a) where current premium amount to be paid, insurance procedure and subsidy policy were satisfactory but less satisfied with the claim requirements and procedure and the time taken by insurance company for claim settlement.

Table 3: Percentage of the respondents according to the level of satisfaction about livestock insurance among livestock owners

Level of satisfaction among the livestock owner about the livestock insurance	Highly satisfied (%)	Satisfied (%)	Not satisfied (%)
Livestock insurance premium rate	13.79	68.97	17.24
Terms, conditions, rules and regulations of insurance policy	6.9	62.07	31.03
Guidance and helpfulness of insurance specialists	62.07	24.14	13.79
On time visit made by the insurance specialists at the accident scheme	51.72	24.14	24.14
Quality of loss estimation after the death of insured animal	17.24	65.52	17.24
Quickness and manner of payment after claim of insured animal	17.24	44.83	37.93
Coverage of risks of livestock insurance policies	20.69	20.69	58.62

Constraints of livestock insurance among livestock owner

Table 4 shows the constraints of livestock insurance among livestock owner. The constraints of livestock insurance are faced by the livestock owners from insurance companies. Lack of awareness, inadequate information and limited choices on livestock insurance products were major constraints. Koirala & Bhandari (2017) reasoned out lack of awareness, unwillingness of the farmers due to complex process of insurance and delay in the claim payment by the insurance company for livestock farmers not insuring their livestock. But insurance companies also faced problems like moral hazard and adverse selection. Moral hazard was the reason for livestock insurance yet to be widely adopted in most countries (Boyd *et al.*, 2015). Kandel & Timilsina (2018b) reported lack of awareness, complex documentation and tedious claim payment for having low number of insurance adopting farmers.

Similarly, cases of teats cutting, mastitis and infertility including insurance of poultry was not included under insurance policy which limited the spread of insurance program. Ghimire *et al.*, 2016 also had similar findings and suggested adequate publicity of insurance scheme, making insurance procedure easier and quick settlement of claims.

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Table 4: Distribution of the respondents based on the constraints of livestock insurance among livestock owner

Constraints of livestock insurance among livestock owner	Strongly agree (%)	Agree (%)	Disagree (%)
Inadequate information about livestock insurance	62.22	20	17.78
Complex procedure for attainment of livestock insurance	35.56	28.89	35.56
Excessive wastage of time during procedure of livestock insurance	15.56	28.89	55.56
Inadequate information about claim amount	33.33	35.56	31.11
Post-mortem of animal was not done in due course of time	15.56	37.78	46.67
Getting livestock insurance claim is a lengthy and time taking process	31.11	35.56	33.33
Inability to pay insurance premium in one installment	6.67	28.89	64.44
Less number of financial institution providing livestock insurance	44.44	33.33	22.22
Less faith of livestock owner in getting adequate livestock insurance claim	42.22	31.11	26.67
Financial institution providing less coverage against risk	42.22	42.22	15.56
Inadequate awareness program by Government Animal Husbandry Department about livestock insurance	68.89	24.44	6.67
Livestock insurance is only for large farmers	40	24.44	35.56
Distantly located veterinary hospital for contacting veterinarian and conducting post-mortem of animal	17.78	33.33	48.89
Less coverage by insurance policies	26.67	53.33	20
Ear tag maintenance is difficult in livestock insurance	0	13.33	86.67
Presence of limited choices in insurance product suitable to socio- economic condition of livestock owner	53.33	42.22	4.44
Maintenance and preservation of documents for getting claim after loss of animal	20	42.22	37.78

Factors affecting farmers' decision in the adoption of livestock insurance

Friends and relatives adopting livestock insurance motivate other farmers. Cooperative, on other hand was more active lately on livestock insurance sector. Farmers who apply for agricultural loan after insuring livestock receive loan with comparatively low interest rates. Similarly, in case of sick insured animals, medicines are provided with certain discount. Likewise, past experience of farmers like death of livestock property, frequent disease occurrence and high purchase cost of animal and price fluctuation of animal and its products increases the adoption chances of insurance. Incentives on insurance scheme also attract farmers on its adoption. Behavior of trying new products and knowledge on insurance supports insurance adoption. Similar findings were also observed by Singh & Kumar (2016).

While, inadequate information, awareness and enthusiasm among farmers, low level of satisfaction from insurance companies, not having enough coverage and suitable insurance products on other hand, demotivate farmers to insure their livestock. Njegomir & Pejanovic, (2011) also suggested that the insurance was underdeveloped because of uninterested farmers and insurers. Diversified income sources, small herd size and high income mostly affect livestock insurance adoption in a negative way. Several cases like infertility, cutting of teats, poisoning were found where one cannot claim for insurance. Similarly, a farmer tries insurance as an investment rather than protection. Then, later if no incident happens, he become sad for not being able to claim instead of being happy seeing his livestock in safe state. Onwards, he decides not to insure his livestock. These findings were also in accordance with results observed by Kumar *et al*. (2018).

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CONCLUSION

Livestock insurance is one of the effective tools to manage risk in livestock farming. It was surprising that besides 86.67 percent of farmers perceiving livestock insurances' effectiveness, only 64.44 percent were adopting it. However, 62.07 percent among the insurance adopters were found insuring their livestock within current year that depicts the insurance increasing popularity. Most of farmers actually knew the need of insurance. But, when asked the reason for not insuring their livestock, some stated that livestock insurance is for large famers only, whereas other reasoned out low level of satisfaction from insurance companies, not having enough coverage and suitable insurance products. This implies the need of increasing awareness about livestock insurance on grass-root level instead of mass awareness. This can be done through field visit of extension officers or insurance agents to the livestock farmers. More inclusive problems are suggested to increase the participation of Dalit and Janajatis. Also, provision of suitable insurance products choices to all types of socio-economic level farmers is needed to be considered. Assess of the real demands of livestock farmers can be very promising. This requires the combined effort of government, policy makers, extension officers and livestock farmers.

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Conflict of interest

The author declares no conflict of interest regarding publishing this manuscript.

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