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Frequently Asked Questions and Answers on Index Based Livestock Insurance of Borana for Extension Workers use

ILRI
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LIVESTOCK RESEARCH
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English Version | Yabello

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I. Insurance

1. What is insurance?

Insurance is a formal transfer of risk to an insurance company. It is the protection of assets against specific perils in exchange for regular premium payments proportionate to the likelihood of risk occurrence and the cost involved. Insurance enables insurance purchaser get compensation if the insured risk occurs within the time span of the contract period.

2. Who can buy IBLI

Any person who owns at least one shoat (Sheep or goat) and whose livestock graze in one of the 8 woredas in Borana Zone under IBLI coverage can buy IBLI insurance.

3. How does insurance benefit pastoralists

IBLI protects pastoralists from livestock loss as a result of prolonged drought. This means, it compensates policyholder, when droughts is confirmed to be severe through monitoring deterioration of forage available to livestock by satellite imagery of vegetation (forage).

4. If I insure pregnant cattle and it gives birth during active insurance contract period, will the new born calf be under insurance coverage?

No, your calf does not get insurance coverage, if you pay premium only for one cattle. Premium is to be paid for each heads of livestock. But if you want you can by insurance policy for the calf to be borne by paying the amount of premium for cattle.

5. Is it possible to quit insurance contract for certain period, and then activate it again some other time?

Insurance purchase is voluntary and coverage period is usually for one year. This means that when you purchase insurance for a head of livestock, you pay a premium that gives you protection for the agreed value of that insured livestock per insurance terms given to you for one year. For your asset to remain under insurance protection for subsequent years, you are required to pay additional premium charges every year. If not, your contract agreement expires, and your asset will not have insurance protection. If you want insurance contract after your contract has expired for some time, a year, two or so, you are free to buy the contract again any time.

II. Index Based Livestock Insurance (IBLI)

1. What is index?

Index is a proxy measure for something or phenomenon in a situation where it is impossible, difficult or costly to do measurement directly. For instance, when Borana rangeland experiences drought, livestock may die in large numbers, especially as drought intensifies. Though it can be possible to count the number of die-offs, it would be costly and time consuming to do so. In such condition, what is usually done is to use a measure of highly related phenomena (e.g. forage scarcity in rangeland case) that can be measured easily and used as a proxy for the livestock die-offs count. If formal insurance services are to be provided to protect the pastoralist's livestock asset, one has to choose a measurable proxy such as forage availability or rainfall to serve as the index.

2. What is Index Based Livestock Insurance (IBLI)?

Index-Based Livestock Insurance (IBLI) is an insurance product which measures forage availability as a suitable indicator of drought. It is designed to indemnify pastoralists when forage availability, over a period of a season falls considerably below what is usually normal (average forage availability since the last 30 years period). The objective of IBLI is to indemnify pastoralists in severe drought situations.

3. What types of risks are covered under IBLI (the insurance being sold)? Does it give insurance coverage for livestock death from any causes?

IBLI is insurance for drought only. It is a contractual agreement to compensate policy holders proportional to the expected livestock loss to be experienced as a result of lack of pasture (drought). The availability of pasture is tracked from vegetation imagery by satellite. IBLI does not give insurance coverage for livestock asset loss due to other causes like predation, disease, etc.

Livestock species that can be insured under IBLI contracts are: cattle, camels, goats and sheep only.

4. Why does the insurance product you sale (IBLI) provide coverage for drought risk only not for predation or death due to diseases?

The difficulty of loss verification has been the major impediment to insurance provision, especially over a vast and inaccessible rangeland. Now, provision of insurance services for drought is made possible by tracking forage scarcity through vegetation imagery by satellite. Tracking forage availability over a

period of time for which the insurance contract will be in effect enables insurance companies to compensate policy holders without the need to go around to count livestock die-offs.

But, one-by-one losses assessment is mandatory to verify predation or death due to disease which is still difficult unlike that of drought. One-by-one loss assessment is very costly thus insurance companies do not provide insurance services when the cost of insurance provision is very high.

Furthermore, drought is the major cause of livestock losses for Borana community and other pastoralists. Finally, insurance principles also dictates that the insurance product be sold for specific risk like drought not for combination of many risks like predation, diseases, theft and accidents at the same time.

5. How does IBLI differ from traditional insurances, e.g. vehicle insurance?

IBLI differs from major traditional insurance types like vehicle insurance in many ways:

IBLI	Traditional Insurance
Insurance contract is written against an indicator that is directly related to the asset insured	Insurance contract is written directly against the peril of the asset
Loss assessment is not required to make compensation as tracking of index progressively indicate the level of compensation to be made	Loss assessment is needed to be made by claim officers before making compensation
Compensation is made to all individuals within a coverage area as per the index level	Compensation is made to individuals according to verified individual loss

III. Index

1. What is Satellite? What is NDVI?

Satellite is a machine that lies beyond the earth's atmosphere and that rotates around the globe collecting and transmitting various information about the earth's surface. Sometimes, it can be seen at night when it is overhead as it resembles stars but moves much faster. Satellite imagery of vegetation is called NDVI (Normalized Differenced Vegetation Index) and helps to know:

- Whether a geographical location is covered by vegetation or not,
- If covered whether that vegetation cover is green or not and
- The density of that cover.

➤ ***Satellite, by taking vegetation pictures regularly in a geographical location, enables to track whether that area is undergoing drought situation, and if so to what degree.***

2. What Index does IBLI use?

The index of Index Based Livestock Insurance (IBLI) product for Borana is derived from vegetation imagery, ***to measure the level and density of pasture available to livestock***. The index is called cumulative deviation of forage availability. It simply measures the forage condition over defined time period and for geographical areas of interest starting ***from as low as 250m by 250m aggregating to village, kebele and woreda***, etc.

3. How NDVI is used to calculate the index of IBLI? How does the index measure forage availability?

NDVI measures availability and density of pasture by tracking vegetation imagery over the rangeland to estimate the magnitude of livestock loss without counting. Scarce pasture means livestock do not have feed and can gradually die if feed continues to deteriorate over time and geographical locations.

To calculate the IBLI index:

- ⇒ First the greenness level of vegetation (pasture) of a current 16 days period is measured by satellite,
- ⇒ Then this current 16 days period pasture performance is compared to what is usually normal on average for same period of time in a year over the past 30 years to know how much the current pasture has deviated. ***Drought is a slow onset disaster and when interpreted in a context of rangeland, it means continuous deterioration that finally leads to large die-offs of livestock.***
- ⇒ Finally, the 16 days deviation of pasture is cumulated over insurance coverage (from the 1st date of expected rain for a season to the last date of expected end of the dry season that follows) to construct the index that measures forage availability over time.

Pasture availability index, constructed by cumulating deviation of vegetation imagery (greenness level of pasture), measures the level of pasture available to livestock for consumption and compensates policy holders when the available pasture fall to the level of historical drought years.

4. What is contract strike or trigger? How is it related to drought?

Contract strike or trigger means simply the level of pasture availability measure beyond which if it deteriorates, policy holders start getting indemnity. It is set by research based on 30 years historical data and considering the premium level pastoralists can afford and it is part of the contract agreement.

Contract is said to strike or trigger (meaning starts paying indemnity) if the current season index reading falls below contractually agreed level. When it triggers it means policy holders starts getting compensation.

Strike or trigger of the contract is related to drought as it is set based on 30 years historical data of pasture availability in such a way that ***seasonal pasture levels amounting to historical drought seasons in the past thirty years*** will fetch compensation for policy holders.

5. How do we know whether the index triggers contact payout?

The index is tracked starting from the day one the insurance contract is in effect to the end of a season (one season from October 1 to February 28/29, and the other season from March 1 to September 30) every year.

The index reading for current season is announced to policy holders at the end of a season and if it is in the drought designated regime, compared to the pre-agreed strike level index, policy holders will be indemnified according contract indemnity formula agreed upon.

6. Can satellite pictures differentiate forage from trees or bushes?

The vegetation imagery by satellite does not detail exactly what type of tree, grass or plant is available. It just shows a fortnight period of greenness level and density of vegetation including forage. The imagery is taken on high resolution pixel of 250m by 250m area every 16 days (approximately fortnight). How much this fortnight vegetation performance has deviated from what has been normal on average for the past 30 years is calculated, aggregated and averaged for a geographical area of interest for the insurance period. If the land is predominantly open grassland, it will be the effect of the grass which is reflected in the final index, whereas if it is land dominated by a bush it will be the effect of bush which is observed.

Though the imagery does not tell directly whether the observed vegetation is bush or grass, it definitely indicates how the pasture in an area is performing compared what has been normal for that particular area, at that particular period of the year.

7. You say the satellite shows the degree of greenness of an area, but can it show, for instance, whether grass is available or not under trees or bushes?

Satellite is not human being, but human beings translate the satellite imagery of vegetation. The objective of using satellite is not to identify whether vegetation in an area is bush, tree or grass; rather it is to know whether an area is experiencing drought or not and the extent of the severity of that drought. Satellite imagery of vegetation can serve this objective of enabling pastoralists to get indemnity in the conditions of severe drought.

⇒ ***It is not possible to identify a grass under a tree but it is possible to know the severity of drought by analyzing pasture performance over time and enabling pastoralists to get compensation when they are affected by severe drought.***

Note: Insurance provision based on index of vegetation or pasture performance, does not replace other mechanisms of rangeland and risk management, but complement those efforts by compensating pastoralists when they experience severe drought that would push them into destitution otherwise.

8. In some areas like Arero and Yabello mountain parts, trees like acacia are usually green in drought conditions, so how can satellite recognize drought in such cases where some species of trees remain green even in drought situations?

The reason that the index compares the current satellite reading with the historical average is because even where trees or bushy vegetation not eaten by livestock are still green in terms of drought, the average level of green will still be less than what it usually is during times of drought. It is this difference that can be recognized!

IV. Premium

1. What is the cost (of premium) of getting insurance coverage for my livestock? Are the premiums the same for different livestock species?

Premium is the price of risk to be paid now by the insurance buyer, in order to get compensation if that insured risk occurs per the contract terms. Since different livestock species have different values in case of compensation, the price of risk (premium) to be paid is proportional to that value.

In addition, the premium amount varies among geographical coverage locations (woredas), since the probability of occurrence of drought varies from Woreda to Woreda. For instance, drought is more likely to occur in Moyale and Miyo than in Yabello which means insurance is more likely to pay frequently in the former woredas than the latter.

Hence the more susceptible a woreda to drought, the higher the premium it is to be charged to get protection than less susceptible one.

Different livestock species, cattle, camel and shoats are charged different amount of premiums. Premium is paid for a single species of head of livestock. One can insure any number of livestock by paying premium proportional to the number of livestock s/he wants to insure.

Table 1: The amount of premium to be paid for different species of livestock in 7 different index Woredas (Miyo and Moyale are one index woreda) in Borana Zone

Woredas (Geographical coverage of the contracts)	Annual Premium Rate as % of Insured Value	Amount of Premium in Birr for a unit of Livestock		
		Cattle	Camel	Goat or Sheep
Dillo	9.75%	487.5	1463	68.25
Teltele	8.71%	435.5	1307	60.97
Yabello	7.54%	377.0	1131	52.78
Dire	9.49%	474.5	1424	66.43
Arero	8.58%	429.0	1287	60.06
Dehas	9.36%	468.0	1404	65.52
Miyo/Moyale	11.05%	552.5	1658	77.35

2. If drought does not occur for the period I buy insurance, do I get back the premium I paid?

Premium paid to get risk protection is non-refundable. Buying insurance by paying a premium is completely different from saving money at bank. When you buy insurance, you pay a relatively small amount of money now, not to get back same amount of money, but to get relatively higher amount of money in the form of compensation, provided that the risk insured is realized. It means if drought occurs you will be compensated for a least the value of the premium paid and likely more. Buying

insurance is similar to hiring a guard for small amount of salary to protect your property from theft. As you do not ask the guard to refund you the salary you pay him/her, even if thieves do not come to steal, one cannot ask for premium refund if drought does not occur. As the guard has protected your property even if thieves do not come to steal, the premium you paid has protected your livestock loss against drought risk even if it does not occur.

3. If drought did not occur, say, for 2-3 or more years and we have been buying insurance for all those years, are we not losing our money?

No, buying insurance is not losing money. If drought did not occur in one year, it may occur in another year. One hires a guard to protect his/her property all the time. Though you know property can be robbed, you do not know the exact time when robbers might come – and would wish that they never come. You have not lost the salary you paid to a guard from year to year to protect your property, since s/she has protected your property though thieves might not show up to rob. Similarly, the premium you pay to get insurance protection is not money lost as you have got protection against drought risk which nobody knows when it would occur.

4. Is the premium I pay saved for me like money put in bank?

No, paying premium is completely different from saving money in bank. If you put money in bank you may withdraw some other time when you need. While by paying premium, you are purchasing the service of protection for your livestock asset against the occurrence of drought.

5. How long will my livestock be insured after I pay one-time premium?

Insurance is an annual contract and one-time annual premium payment provides insurance protection only for one year. In order to get continuous protection, you need to activate insurance contract annually by paying premium charged by insurance provider.

6. How have you determined the market prices you assigned to different livestock species (cattle=Birr 5,000, Camel=Birr 15,000, and shoats= Birr 700) where their current prices is actually higher?

The current market prices for different livestock can be higher than the respective prices we use for insurance purpose. Normally, we determined these prices depending on livestock market prices collected from Haro Bake livestock market price for the past five years and averaged it. A livestock species, say cattle, can have different market prices depending on the age, sex or body condition. But

for insurance purpose a fixed price, which does not vary over insurance period, is needed as the current level of premium and potential amount of compensation depends on the value of that asset. In other words the premium to be paid now and potential compensation is proportional to the value of the livestock asset to be covered by insurance. For instance, if you feel the ox you want to insure can be valued for Birr 10, 000, it is your right to pay twice the premium paid for a cattle and get insurance coverage for two cattle.

V. Compensation

1. How and where do I ask for compensation?

According to the insurance contract we are selling you do not need to report anywhere to get compensation. This is index insurance, whereby level of forage availability for livestock to feed on is monitored, and if payout triggers or the level of forage available amounts to drought situation, OIC will announce the timing of payment through DAs and/or available medias like Radio Oromia. Payment will be effected through OCSSCo or other agents appointed by OIC.

2. What are the conditions to be fulfilled to get compensation?

In order for policy holders to get compensation, the level of forage available to livestock in the index coverage woreda, as monitored by satellite vegetation imagery, should amount to a drought level that triggers compensation.

3. How much compensation will I get for a livestock when insurance is confirmed to be triggered?

The amount of compensation one gets depends on the level of forage shortage. The milder the forage shortage is, the lesser the amount of compensation will be; and the severer the forage shortage is the higher the amount of compensation. Potential payout periods are twice a year, just at the end of the two dry seasons of Borana. So, the amount of compensation, in monetary terms for one of the two seasons, can range from half of the annual premium amount paid in situation of a milder forage shortage condition to a half of the total value insured in a situation of severe forage shortage equivalent to the worst drought occurred since the past 30 years.

4. Is compensation based on kebele or woreda?

The index of forage availability is constructed for woreda not for a kebele. Since, compensation is based on the index reading for a woreda, once the payout is triggered according to the index, compensation will be for all the kebeles covered by the woreda level index.

5. You say the index is woreda based, will the compensation rate change if some kebeles in the woreda are affected more than the others?

Not only could drought affect some kebeles in a woreda more severely than others but could also affect neighbors or households in severely affected kebeles differently. The way the IBLI index works, is that it makes compensation based on the actual forage availability index reading for a woreda, not on the actual loss experienced by individual kebeles or households. The index is average, and some households might be compensated less than the actual losses they experienced while others can be compensated more than the actual losses they experienced. But it is generally understood that pastoralists are not limited to their own kebeles for grazing their livestock, rather continuously move around in search of pasture to the next village, kebele and even another woreda most of the time.

6. Do I get compensation if the livestock I insured is eaten by predators or died due to disease?

No, as per insurance principles, compensation is only made when a specific risk covered under the policy is realized. In our case the insurance policy you are buying is drought insurance and you get compensation if only if the level of forage availability index triggers payouts in your index woreda irrespective of the livestock you insured is alive, dead due to disease or predated.

7. At what times in the year can we expect compensation if insurance triggers payout?

The insurance policy is an annual contract that rolls either from October 1 to September 30 or from March 1 to February 28/29 the following year with potential compensation that can be realized twice a year, one at the end of Long dry season (Bona Adolessa) for Long Rain Long Dry (March to September), and second at the end of Short dry season (Bona Hagaya) for Short Rain Short Dry (October to February) of Borana. So there is a potential compensation period in October and the second is in March.

8. Do I get compensation if the index trigger insurance, but livestock did not die?

Yes, index insurance policy looks only at the triggering level of the index used for insurance to make compensation and not concerned whether the insured asset is periled or not. So for you to get compensation, it is sufficient only for the index to trigger. So even if your insured livestock are alive, you can receive compensation.

I. Trust

1. Since we don't know you, how can we trust that if we buy insurance from you, we shall receive any rightful claim latter on?

Oromia Insurance Company (OIC) is established based on Ethiopian business codes to provide insurance services: sell insurance products, collect premium, and pay indemnity. Government institutions are there to enforce law and make sure business companies like OIC do business based on codes which obliges them to fulfill promises of paying indemnity for risks realized according to the contract. As a business company, OIC also understands the role of trust in doing business without which business relationships would not sustain.

Policy holders are not required to come to OIC to report livestock asset loses they suffered and ask for claim. An independent third party, currently ILRI will regularly track the performance of pasture and announce the index reading level, whether it is deteriorating or not. And at the end of the dry seasons, if the contract is triggered OIC will announce to the policy holders with active contracts in the index area via radio and DAs to collect their indemnity. ILRI, or another independent third party, will confirm the correctness of the index.

2. We don't know how to read and interpret NDVI, how do we trust OIC that it does not manipulate the index in order not to pay compensation?

This index is constructed by an independent research institution, ILRI, which is committed to creating knowledge that can contribute to the improvement of the livelihoods of the community dependent on livestock worldwide. OIC neither constructs nor do monitor the index to manipulate it. ILRI monitors the index now and when it finishes with the research, will pass to a competent public agency to do the tracking and monitoring task.

3. How do we trust the IBLI index? Can our representatives read the index?

This is a trial to use science product to track drought trend over a season, based on historical data and indemnify pastoralist for sever loses of livestock asset. The index is developed by scientists and researchers who are solely interested in creating public knowledge of drought risk management. The data for vegetation imagery is freely available from NASA satellite. The scientists and the researchers, who constructed the index based on the historical data of 30 years, are convinced that the index would substantially indemnity policy holders in historical drought years.

Obviously, since the index is area average, the actual individual loss experienced can slightly diverge from what the index would indicate. This is an inherent drawback of any index which is resulted from the same property that makes it easy to use.

Any person who have basic understanding NDVI and statistics can read the index.