

Calculation Sheet

This note explains how to derive total value of insured livestock, insurance premium and indemnity payment.

1. Calculating total number of insured livestock (Tropical Livestock Unit, TLU)

- 1 Cattle = 1 TLU.
- 1 Camel = 1.4 TLU.
- 1 goat/sheep = 0.1 TLU.
- Example 1. If you would like to insure 3 cattle and 20 goats/sheep, your TLU insured is $3 \times 1 + 20 \times 0.1 = 5$ TLU.
- Example 2. If you would like to insure 4 cattle, 7 camel, and 15 goats/sheep, your TLU insured is $4 \times 1 + 7 \times 1.4 + 15 \times 0.1 = 15$ TLU.

$\begin{aligned} \text{Total number of insured livestock} &= \# \text{ of cattle} \times 1 + \# \text{ of camel} \times 1.4 \\ &\quad + \# \text{ of goats/sheep} \times 0.1 \end{aligned}$

2. What is your total value of insured livestock?

Total value of insured livestock is total number of livestock insured times the value of one unit of livestock (TLU), which is replacement value of 1 TLU. The value of 1 TLU is 15,000 KSh.

$\text{Total value of insured livestock} = \text{total number of livestock insured} \times 15,000 \text{KSh}$

For example, if you insure 10 TLU, total value of insured livestock is $10 \text{ TLU} \times 15,000 \text{ Ksh} = 150,000 \text{ Ksh}$

3. What is your premium?

Insurance premium rates are 5.5% for Upper Marsabit and 3.25% for Lower Marsabit. Insurance premium is total value of insured livestock multiplied by the insurance premium rate.

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| <ul style="list-style-type: none">➤ Insurance Premium Rate<ul style="list-style-type: none">○ 5.5% for Upper Marsabit○ 3.25% for Lower Marsabit➤ Insurance premium = total value of insured livestock
$\times$ insurance premium rate |
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Take the above example: total value of insured livestock = 150,000 KSh

For example, if you choose Upper Marsabit, insurance premium is $150,000 \text{ KSh} \times 5.5\% = 8,250 \text{ Ksh}$

4. What is your total indemnity payout you would receive by the end of long rain-long dry (LRLD, March-September) season?

Take the above example: total value of insured livestock = 150,000 KSh

If predicted livestock mortality index (M_LRLD) equals to	Indemnity rate to be paid by insurer (% of total value of insured livestock)	Total Indemnity to be paid in Ksh = % indemnity rate × total value of insured livestock
0%	0%	$0\% \times 150,000 = 0 \text{ Ksh}$
10%	0%	$0\% \times 150,000 = 0 \text{ Ksh}$
15%	0%	$0\% \times 150,000 = 0 \text{ Ksh}$
20%	$20\% - 15\% = 5\%$	$5\% \times 150,000 = 75,000 \text{ Ksh}$
25%	$25\% - 15\% = 10\%$	$10\% \times 150,000 = 15,000 \text{ Ksh}$
30%	$30\% - 15\% = 15\%$	$15\% \times 150,000 = 22,500 \text{ Ksh}$
35%	$35\% - 15\% = 20\%$	$20\% \times 150,000 = 30,000 \text{ Ksh}$

5. What is your total indemnity payout you would receive by the end of short rain-short dry (SRSD, October-February) season?

Take the above example: total value of insured livestock = 150,000 KSh

If predicted livestock mortality index (M_SRSD) equals to	Indemnity rate to be paid by insurer (% of total value of insured livestock)	Total Indemnity to be paid in Ksh = % indemnity rate × total value of insured livestock
0%	0%	$0\% \times 150,000 = 0 \text{ Ksh}$
10%	0%	$0\% \times 150,000 = 0 \text{ Ksh}$
15%	0%	$0\% \times 150,000 = 0 \text{ Ksh}$
20%	$20\% - 15\% = 5\%$	$5\% \times 150,000 = 75,000 \text{ Ksh}$
25%	$25\% - 15\% = 10\%$	$10\% \times 150,000 = 15,000 \text{ Ksh}$
30%	$30\% - 15\% = 15\%$	$15\% \times 150,000 = 22,500 \text{ Ksh}$
35%	$35\% - 15\% = 20\%$	$20\% \times 150,000 = 30,000 \text{ Ksh}$