QUESTIONNAIRE FOR RISK FACTOR WEIGHTING: THE SPATIAL RISK OF FMD *OCCURRENCE* WITHIN THE PROTECTION ZONE WITH VACCINATION OF SOUTH AFRICA

Thank you for your participation. In our study, we are assessing the risk of FMD outbreak *OCCURRENCE* in South Africa.

FMD Occurrence is defined as the detection of an FMD outbreak within a village or a dip-tank

A set of risk factors based on the literature and available data are listed below.

We require your expertise to define the appropriate weight (=importance) for each selected risk factor.

Risk of SAT1 & SAT2 FMD occurrence	**Associated hypothesis**
Cattle population	Increasing cattle density increases the likelihood of FMD outbreak occurrence.
Proximity to a game reserve	Shorter distance to a game reserve fence increases the likelihood of FMD outbreak occurrence.
Human population	Higher human density increases the likelihood of FMD outbreak occurrence.
Proximity to a road network	Closer proximity to a road network increases the likelihood of FMD outbreak occurrence.
Proximity to rivers	Closer proximity to rivers increases the likelihood of FMD outbreak occurrence.
Vaccine matching	Poorer vaccine matching increases the likelihood of FMD outbreak occurrence.
Vaccination coverage	Lower vaccination coverage increases the likelihood of FMD outbreak occurrence.
Vaccination interval	Longer vaccination intervals increase the likelihood of FMD outbreak occurrence.
Cattle inspection	Lower inspection effectiveness increases the likelihood of FMD outbreak occurrence.
Permitted cattle movement into a village/location	Higher number of cattle movements into a village increases the likelihood of FMD outbreak occurrence.
Permitted cattle movement outside a village/location	Higher number of cattle movements leaving a village increases the likelihood of FMD outbreak occurrence (within the village sending the cattle out).

Please select an option from each drop-down list that corresponds to the risk of *FMD OCCURRENCE* related to each factor compared to all others. Comparisons are to be made between each Row Factor (BLUE) to the corresponding Column Factor (ORANGE) for each cell in the table. (Comparing the *BLUE* shaded factors to the *ORANGE* shaded factors).

	Cattle population	Proximity to a game reserve	Human population	Proximity to a road network	Proximity to rivers	Vaccine matching	Vaccination coverage	Vaccination interval	Cattle inspection	Permitted cattle movement into a village/location	Permitted cattle movement outside a village/location
Cattle population	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Proximity to a game reserve	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Human population	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Proximity to a road network	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Proximity to rivers	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Vaccine matching	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Vaccination coverage	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Vaccination interval	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Cattle inspection	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Permitted cattle movement into a village/location	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Permitted cattle movement outside a village/location	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1

Please use the scale provided to identify your choice

More Important				Equivalent	Less Important			
Extremley	Very	Strongly	Moderately		Moderately	Strongly	Very	Extremley
16 : 1	8 : 1	4 : 1	2 : 1	1 : 1	1 : 2	1 : 4	1 : 8	1 : 16

Questionnaire FOR RISK FACTOR WEIGHTING: THE SPATIAL RISK OF FMD SPREAD WITHIN THE PROTECTION ZONE WITH VACCINATION OF SOUTH AFRICA

Thank you for your participation. In our study, we are assessing the risk of FMD outbreak *SPREAD* in South Africa.

FMD spread is defined as the transmission or movement of FMD outbreak to a secondary village or a dip-tank.

A set of risk factors based on the literature and available data are listed below.

We require your expertise to define the appropriate weight (=importance) for each selected risk factor.

Risk of SAT1 & SAT2 FMD spread	**Associated hypothesis**
Cattle population	Increasing cattle density increases the likelihood of local FMD outbreak spread.
Proximity to a game reserve	Shorter distance to a game reserve fence increases the likelihood of FMD outbreak spread.
Human population	Higher human density increases the likelihood of FMD outbreak spread.
Proximity to a road network	Closer proximity to a road network increases the likelihood of FMD outbreak spread.
Proximity to rivers	Closer proximity to rivers increases the likelihood of FMD outbreak spread.
Vaccine matching	Poorer vaccine matching increases the likelihood of FMD outbreak spread.
Vaccination coverage	Lower vaccination coverage increases the likelihood of FMD outbreak spread.
Vaccination interval	Longer vaccination intervals increase the likelihood of FMD outbreak spread.
Cattle inspection	Lower inspection effectiveness increases the likelihood of FMD outbreak spread.
Permitted cattle movement into a village/location	Higher number of cattle movements into a village increases the likelihood of FMD outbreak spread (from the receiving village to a new village).
Permitted cattle movement outside a village/location	Higher number of cattle movements leaving a village increases the likelihood of FMD outbreak spread (to a new village).

Please select an option from each drop-down list that corresponds to the risk of *FMD SPREAD* related to each factor compared to all others. Comparisons are to be made between each Row Factor (BLUE) to the corresponding Column Factor (ORANGE) for each cell in the table. (Comparing the *BLUE* shaded factors to the *ORANGE* shaded factors).

	Cattle population	Proximity to a game reserve	Human population	Proximity to a road network	Proximity to rivers	Vaccine matching	Vaccination coverage	Vaccination interval	Cattle inspection	Permitted cattle movement into a village/location	Permitted cattle movement outside a village/location
Cattle population	1 : 1	8 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Proximity to a game reserve	16 : 1	1 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Human population	1 : 4	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Proximity to a road network	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Proximity to rivers	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Vaccine matching	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Vaccination coverage	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Vaccination interval	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Cattle inspection	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Permitted cattle movement into a village/location	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1
Permitted cattle movement outside a village/location	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1	16 : 1

Please use the scale provided to identify your choice

More Important				Equivalent	Less Important			
Extremley	Very	Strongly	Moderately		Moderately	Strongly	Very	Extremley
16 : 1	8 : 1	4 : 1	2 : 1	1 : 1	1 : 2	1 : 4	1 : 8	1 : 16