BIBLIOGRAPHY


COETZER, K. (1995). Diseases of Domestic and Wild Animals that may have a Significant Socio-Economic Impact on Communities in Southern Africa. *Paper Presented*


FARMERS WEEKLY (1998). Combat Ticks and Win a Rugby Ticket to the World Cup. 30 October.


Figure 1: The Main Problems and Constraints Identified by the Small-Scale Cattle Farmers in the Venda Region
Appendix 2

Table 1: Estimated Regional Losses in 1989 due to East Coast fever in 11 African Countries affected by the Disease.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity (t)</th>
<th>Loss in US$ thousand</th>
<th>Percentage of total loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef loss, total (t)</td>
<td>19 428</td>
<td>20 607</td>
<td>12</td>
</tr>
<tr>
<td>- Mortality loss (t)</td>
<td>16 246</td>
<td>17 232</td>
<td>-</td>
</tr>
<tr>
<td>- Morbidity loss (t)</td>
<td>3 182</td>
<td>3 375</td>
<td>-</td>
</tr>
<tr>
<td>Milk loss, total (t)</td>
<td>97 482</td>
<td>78 697</td>
<td>47</td>
</tr>
<tr>
<td>- Mortality loss (t)</td>
<td>9 284</td>
<td>7 495</td>
<td>-</td>
</tr>
<tr>
<td>- Morbidity loss (t)</td>
<td>88 198</td>
<td>71 202</td>
<td>-</td>
</tr>
<tr>
<td>Animal traction loss (ha)</td>
<td>488 000</td>
<td>21 306</td>
<td>13</td>
</tr>
<tr>
<td>Manure loss (t)</td>
<td>701</td>
<td>66</td>
<td>-</td>
</tr>
<tr>
<td>Treatment</td>
<td>-</td>
<td>8 114</td>
<td>5</td>
</tr>
<tr>
<td>Acaricide application</td>
<td>-</td>
<td>33 008</td>
<td>20</td>
</tr>
<tr>
<td>Research and extension</td>
<td>-</td>
<td>6 550</td>
<td>4</td>
</tr>
<tr>
<td>Total loss, US$</td>
<td>-</td>
<td>168 402</td>
<td>100</td>
</tr>
</tbody>
</table>

*Burundi, Kenya, Malawi, Mozambique, Rwanda, Sudan, Tanzania, Uganda, Zaire, Zambia and Zimbabwe.

Source: (Mukhebi and Perry, 1992: 109)
Table 2: Demographics and Socio-Economic Characteristics of the Respondents.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Vyeboom</th>
<th>Malongana</th>
<th>Guyuni</th>
<th>Matshena</th>
<th>Dzanani</th>
<th>Tshifudi</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household size</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>7.5</td>
</tr>
<tr>
<td>Age of cattle owners</td>
<td>65</td>
<td>56</td>
<td>68</td>
<td>52</td>
<td>56</td>
<td>57</td>
<td>59</td>
</tr>
<tr>
<td>Years of farming</td>
<td>38</td>
<td>22</td>
<td>28</td>
<td>18</td>
<td>22</td>
<td>25</td>
<td>26</td>
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<tr>
<td>Percentages (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male cattle owners</td>
<td>88</td>
<td>87</td>
<td>91</td>
<td>87</td>
<td>100</td>
<td>94</td>
<td>91</td>
</tr>
<tr>
<td>Female cattle owners</td>
<td>12</td>
<td>13</td>
<td>9</td>
<td>13</td>
<td>-</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
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<td>87</td>
<td>87</td>
<td>91</td>
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<td>88</td>
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<tr>
<td>Widowed</td>
<td>12</td>
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<td>13</td>
<td>9</td>
<td>6</td>
<td>12</td>
<td>10</td>
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<tr>
<td>Single</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>6</td>
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</tr>
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<td>Residential status</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Employed – home</td>
<td>6</td>
<td>26</td>
<td>-</td>
<td>26</td>
<td>9</td>
<td>18</td>
<td>14</td>
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<td>- away</td>
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<td>-</td>
<td>7</td>
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<tr>
<td>Unemployed</td>
<td>6</td>
<td>26</td>
<td>4</td>
<td>30</td>
<td>14</td>
<td>35</td>
<td>19</td>
</tr>
<tr>
<td>Self employed</td>
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<td>4</td>
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<td>-</td>
<td>9</td>
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<td>Pensioners</td>
<td>77</td>
<td>30</td>
<td>78</td>
<td>26</td>
<td>59</td>
<td>47</td>
<td>53</td>
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<tr>
<td>Primary</td>
<td>53</td>
<td>26</td>
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<td>30</td>
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<td>9</td>
<td>32</td>
<td>12</td>
<td>17</td>
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<tr>
<td>Tertiary</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Never attended</td>
<td>29</td>
<td>57</td>
<td>39</td>
<td>61</td>
<td>50</td>
<td>12</td>
<td>43</td>
</tr>
</tbody>
</table>
Table 3: Respondents Preferred Breed of Cattle for Future Use.

<table>
<thead>
<tr>
<th>Breed</th>
<th>Vyeboom</th>
<th>Malongana</th>
<th>Guyuni</th>
<th>Matshena</th>
<th>Dzanani</th>
<th>Tshifudi</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahman</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>Nguni</td>
<td>4</td>
<td>11</td>
<td>20</td>
<td>13</td>
<td>17</td>
<td>8</td>
<td>73</td>
<td>58</td>
</tr>
<tr>
<td>Afrikaner</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Bonsmara</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Simmentalaler</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Friesland</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
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<td>2</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Brahman + Nguni</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Afrikaner + Nguni</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Simmentalaler + Afrikaner</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>22</td>
<td>17</td>
<td>125</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix 3

QUESTIONNAIRE

Instructions

Please:
- Write legibly.
- Comment, fill in and circle the correct letter where choice is given (remember one question might have multiple answers applicable to you).
- All the information provided will be kept confidential.

Date ..................................
Area: ........................................................................................................

A DEMOGRAPHIC INFORMATION
A.1. Gender
  1 Male
  2 Female

A.2. Marital status
  1 Married
  2 Divorced
  3 Widowed
  4 Single

A.3 Residential status
  1 Employed
    a) at home
    b) elsewhere
  2 Unemployed
  3 Self employed
  4 Pensioner

A.4 Educational Qualification
  1 Primary education
  2 Secondary education
  3 Tertiary education
  4 never attended

A.5 Estimated age .......... Years
A.6 Composition of household members

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>A.6.1</td>
<td>A.6.2</td>
</tr>
<tr>
<td>20-30</td>
<td>A.6.3</td>
<td>A.6.4</td>
</tr>
<tr>
<td>31-40</td>
<td>A.6.5</td>
<td>A.6.6</td>
</tr>
<tr>
<td>41-50</td>
<td>A.6.7</td>
<td>A.6.8</td>
</tr>
<tr>
<td>51-60</td>
<td>A.6.9</td>
<td>A.6.10</td>
</tr>
<tr>
<td>&gt; 60</td>
<td>A.6.11</td>
<td>A.6.12</td>
</tr>
</tbody>
</table>

A.7 Dependents educational profile

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>At primary level</td>
<td>A.7.1</td>
<td>A.7.2</td>
</tr>
<tr>
<td>At secondary level</td>
<td>A.7.3</td>
<td>A.7.4</td>
</tr>
<tr>
<td>At tertiary level</td>
<td>A.7.5</td>
<td>A.7.6</td>
</tr>
<tr>
<td>At home (young)</td>
<td>A.7.7</td>
<td>A.7.8</td>
</tr>
</tbody>
</table>

A.8 Number of household members

B. CATTLE PRODUCTION INFORMATION

B.9a Breed of cattle kept
- 9.1 Nguni
- 9.2 Afrikaner type
- 9.3 Brahman type
- 9.4 Other (specify)

9b What type of cattle breed would you prefer?

9c And why do you prefer such a breed?

9d What colour do you prefer and why?

9e For how long have you been in farming?

B.10 a) How many cattle do you have now?

b) How many cattle did you have in the household last year (1996)?
B.11.a Herd composition and sales (1996)

<table>
<thead>
<tr>
<th>Herd</th>
<th>number</th>
<th>number sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows</td>
<td>B.11.1</td>
<td>B.11.2</td>
</tr>
<tr>
<td>Heifers</td>
<td>B.11.3</td>
<td>B.11.4</td>
</tr>
<tr>
<td>Oxen</td>
<td>B.11.5</td>
<td>B.11.6</td>
</tr>
<tr>
<td>Bulls</td>
<td>B.11.7</td>
<td>B.11.8</td>
</tr>
<tr>
<td>Calves (&lt;6 month)</td>
<td>B.11.9</td>
<td>B.11.10</td>
</tr>
</tbody>
</table>

(The total of herd composition should be equal with the total in question 10b)

11.b For cattle sold, why did you sell them?

11.c What is the value (in rand) of your adult cattle? R

11.d To whom did you sell the animal?
   1. Auction
   2. local butchery
   3. Friend for ceremonial purposes
   4. other (specify)

11.e Were any animals sold to raise money for bride wealth (Lobola)?

B.12a Cattle purchased (1996)

<table>
<thead>
<tr>
<th>Herd</th>
<th>Number</th>
<th>Amount/head in rand</th>
<th>if non purchased, indicate the willingness to pay in rand/head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows</td>
<td>B.12.1</td>
<td>B.12.2</td>
<td>B.12.3</td>
</tr>
<tr>
<td>Heifers</td>
<td>B.12.4</td>
<td>B.12.5</td>
<td>B.12.6</td>
</tr>
<tr>
<td>Oxen</td>
<td>B.12.7</td>
<td>B.12.8</td>
<td>B.12.9</td>
</tr>
<tr>
<td>Bulls</td>
<td>B.12.10</td>
<td>B.12.11</td>
<td>B.12.12</td>
</tr>
<tr>
<td>Calves (&lt;6 month)</td>
<td>B.12.13</td>
<td>B.12.14</td>
<td>B.12.15</td>
</tr>
</tbody>
</table>
12b Why did you purchase these animals?...

B.13.a Cattle slaughtered (1996)

<table>
<thead>
<tr>
<th>Herd</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows</td>
<td>B.13.1</td>
</tr>
<tr>
<td>Heifers</td>
<td>B.13.2</td>
</tr>
<tr>
<td>Oxen</td>
<td>B.13.3</td>
</tr>
<tr>
<td>Bulls</td>
<td>B.13.4</td>
</tr>
<tr>
<td>Calves (&lt;6 month)</td>
<td>B.13.5</td>
</tr>
</tbody>
</table>

13.b Did you sell some of the meat?...
13.c If yes, how much per kilogram? R...
13.d What did you do with the money received?
   1. Savings
   2. Household purchases
   3. Payment of school fees
   4. Other (specify)...

13.e When do you normally sell your cattle and why?...

B.14.a Were any of the animals slaughtered in question 13a used for ceremonal purposes?
   (Ceremonies such as funeral, wedding, tombstone etc)...
   Other ceremonies e.g. Christmas, birthday (specify)...
14.b If yes, give details below

<table>
<thead>
<tr>
<th>Herd</th>
<th>Number</th>
<th>type of ceremony</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heifers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calves (&lt;6 month)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B.15 What happened to the number of your cattle for the past three years?
1 Decreased
2 Increased
3 Constant

B.16.a If increased, why?

B.16.b If decreased, why?

<table>
<thead>
<tr>
<th>Cause</th>
</tr>
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<tbody>
<tr>
<td>Diseases</td>
</tr>
<tr>
<td>Drought</td>
</tr>
<tr>
<td>Sold</td>
</tr>
<tr>
<td>Slaughter</td>
</tr>
<tr>
<td>Theft</td>
</tr>
<tr>
<td>Insufficient grazing</td>
</tr>
<tr>
<td>other(specify)</td>
</tr>
</tbody>
</table>

B.16.c If died of diseases, which diseases?

B.16.d How many of these died (1996)?

<table>
<thead>
<tr>
<th>Herd</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cows</td>
<td></td>
</tr>
<tr>
<td>Heifers</td>
<td></td>
</tr>
<tr>
<td>Oxen</td>
<td></td>
</tr>
<tr>
<td>Bulls</td>
<td></td>
</tr>
<tr>
<td>calves (&lt;6 month)</td>
<td></td>
</tr>
</tbody>
</table>

B.16.e For the animals that died did you use their meat?

B.16.f If yes, how? Explain briefly
16.g If no, please indicate what did you do with the animals?  

B.17a What is the most common problem(s) within your cattle?  
1 Theft  
2 Road accidents  
3 Diseases  
4 other (specify)  

17b What diseases?  

17c Do you have a problem with ticks?  

17d What is the most common tick problem within your livestock?  
1 Loss of condition (Tick worry)  
2 Tick wounds  
3 Tick damage (e.g. teat loss)  
4 other (specify)  

17e Do you associate any disease with ticks?  

17f If no, do you know any of these diseases?  
1 Red water  
2 Galsickness  
3 Sweating sickness  
4 Heart water  
5 Mastitis  

B.18 a) How do you control ticks?  
1 Dipping tank system  
2 Engine oil  
3 Hand picking  
4 Biological control (e.g. using chickens)  
5 Hand spraying  
6 Do not control at all  
7 Pour on  
8 Spray race  
9 Handdressing  

18b if you also use hand spraying, how do you apply it?  

18c) Why do you control ticks in the way(s) indicated above?  

18d Are you satisfied with the way in which ticks are controlled?  

18e If not, what do you think should be done?
18f When normally do you experience tick problems?
1 Summer 3 Spring
2 Winter 4 Autumn

B.19. What's your attitude towards ticks?
1 Positive
2 Negative
3 Neutral

B.20.a How often do you currently control ticks?
1 Once per week
2 Once per two weeks
3 Once per month
4 Other (specify) .................................................. 

20.b How many times would you like to control ticks? ..........................................

B.21. Why do you control ticks? ..........................................................................
 ..........................................................................
 ..........................................................................
 ..........................................................................

B.22. What (if applicable) did you spend in 1996 on
1 Purchased worms remedies ...................................................................
2 Labour for herding ..........................................................................
3 Vaccination ......................................................................................
4 Tickicides (tick medicines) ............................................................... 
5 Medicines ....................................................................................... 
6 Feed .............................................................................................. 
7 Licks ............................................................................................... 

B.23.a) Are your cattle herded? ............................................................. 

23.b) Who does the herding?
1 An employee
2 Your son/daughter
3 Yourself
4 Grandson/daughter
5 Other (specify) .................................................................................. 

23.C Are they kraaled daily at night? .................................................. 

B.24. Does the household have animals belonging to other relatives not normally living in the household? ........................................ 

B.25 Do you share your kraal with other household? .................................. 

B.26.a) Are animals ever paid as fines or compensation in e.g. adultery in this
community?..........................
26.b) Does any cattle symbolises any ancestral spirit?..........................

C. ECONOMIC ROLE

C.27. What are the main reasons why the household keeps cattle?

<table>
<thead>
<tr>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>sell cattle, meat, milk</td>
</tr>
<tr>
<td>milk (home consumption)</td>
</tr>
<tr>
<td>Lobola</td>
</tr>
<tr>
<td>Wealth</td>
</tr>
<tr>
<td>meat (home consumption)</td>
</tr>
<tr>
<td>Prestige</td>
</tr>
<tr>
<td>Plough</td>
</tr>
<tr>
<td>Rituals</td>
</tr>
<tr>
<td>other (specify)</td>
</tr>
</tbody>
</table>

C.28.a Do you use manure from your cattle kraals on your land?(including the homeyard)
28.b) If yes, why?...........................................................................................................

28.c) Do you ever sell manure to others?......................
28.d) If yes, how much are you paid/ per ton / other? R............................................
28.e) Do you also use cattle manure as a supplementary fuel?........................................
28.f) Do you use fertiliser on your land?.................................................................

C.29.a) Do you use dung for floor preparation or as a way of decoration?
29.b) Do you also sell dung to others for decoration purposes?
29.c) If yes, how much do you charge? R.................................................................

C.30. a) Do you use animals for ploughing?
30. b) if yes, what type?.................................................................
30 c) If no, why are traction animals not used in this community?

30d) Do you hire other peoples animal for ploughing?.............
30c) If yes, how many? 
30f) Do you hire out your own animals for ploughing to others? 

30g) If yes, what do you charge per animal/ span/day? R

30h) Do you use cattle for transport? 

C.31. For the slaughtered cattle (indicated in question 14) indicate what do you do with skins and hides.

<table>
<thead>
<tr>
<th>Purpose</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell</td>
<td></td>
</tr>
<tr>
<td>Keep them</td>
<td></td>
</tr>
<tr>
<td>Discard them</td>
<td></td>
</tr>
<tr>
<td>Give to friends</td>
<td></td>
</tr>
<tr>
<td>Used for cultural purposes (specify)</td>
<td></td>
</tr>
</tbody>
</table>

If you sell skins and hides, at what price? R 

C.32.a) Do you milk your cows for household consumption? 

32 b) If not, why? 

32 c) How often do you milk your cow/day/ month? 

32 d) If yes, on average how much milk per day/ cow does your household usually receive? litres 

32e) On average how many litres of milk per day does your household usually consume? 

32f) If you sell, at what price per litre? R 

32g) To whom do you sell your milk? 

32h) Do you buy milk? 

32i) If yes, from whom do you buy? 

32j) At what price per litre/ 500ml (specify) 

C.33 a. Is there a better way of investing money than in cattle? 

33 b. If yes, what is better? 

C.34 a. Are there any other by-products that you use or sell from your cattle? (Please specify) 

34b) If any, indicate the value of the by-product that you sell? R 

D. OTHER LIVESTOCK OWNED
D.35.

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Number</th>
<th>Owner (e.g. wife, children etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicken</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donkeys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dogs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other(specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C.36. Which member of the household can make the decision concerning the selling or purchasing of the above mentioned livestock?

E. CROP PRODUCTION INFORMATION

E.37 a) Beside cattle farming do you practice crop farming?

37 b) If yes, how many hectares?

37 c) Which crop do you normally cultivate?

37 d) How did you obtain the land?
   1 bought
   2 given by the chief
   3 rented
   4 inherited

37 e) In harsh times do you feed your cattle with crop remnants?

37 f) Do you graze your cattle on the land after harvesting?

F. OTHER INFORMATION

F.38. a) Do you have any animal health based extension officer in your area?
   1 Yes
   2 No
   3 I do not know

38 b) If yes, is there continuity in communication between farmers and veterinary services or other sources of advice in your area?
   1 Good
   2 Average
3 Poor
4 No communication at all

F.39.a Do you normally have outreach programmes such as animal health based farmer’s days? ............
39.b If yes, how often do you attend? ....................
39.c When last did you have the outreach programmes? ....................
F.40.a Do you have access to veterinary services? ....................
40.b Do you have access to the veterinary laboratory? ....................
40.c What’s an approximate distance between where you stay and the veterinary services? ............. km
40.d How often do you visit the laboratory? ....................
F.41.a Do you use any traditional medicines if your animal get sick? ....................
41.b If yes, do they heal? ....................
F.42.a Do you believe in the remedies recommended by the Department of Agriculture? ............
42.b If not, why not? ....................

F.43.a Are you prepared to contribute to any service(s) at a reasonable price aimed at controlling Ticks and tick-borne diseases? ............
43.b What price do you think would be reasonable? ............
1. R0, 50/ animal/ year
2. R1, 00/ animal/ year
3. R2, 00/ animal/ year
4. R3, 00/ animal/ year
5. Other( specify) ....................
43.c How much do you think costs the government to dip a cattle/ year? ....................
F.44. What do you think should be done in your area to improve cattle production particularly in the control of ticks and tick-borne diseases or animal health in general? (any suggestion) ....................