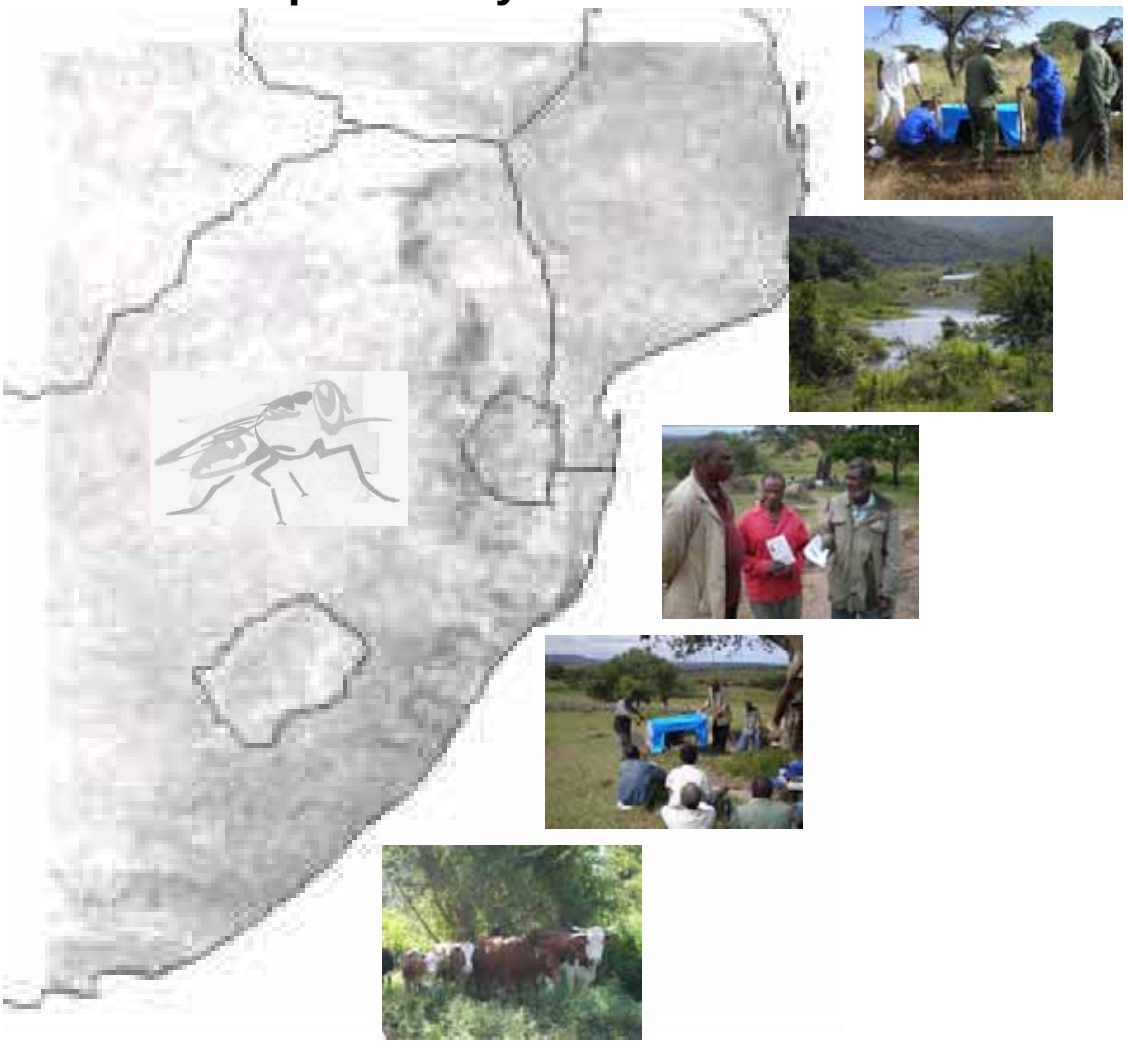
TSETSE SURVEY IN SWAZILAND

Report for WHO

R.K. Saini & P.P. Simarro

April to May 2008



World Health Organization

Swaziland

Regional Centre for Mapping of Resources for Development

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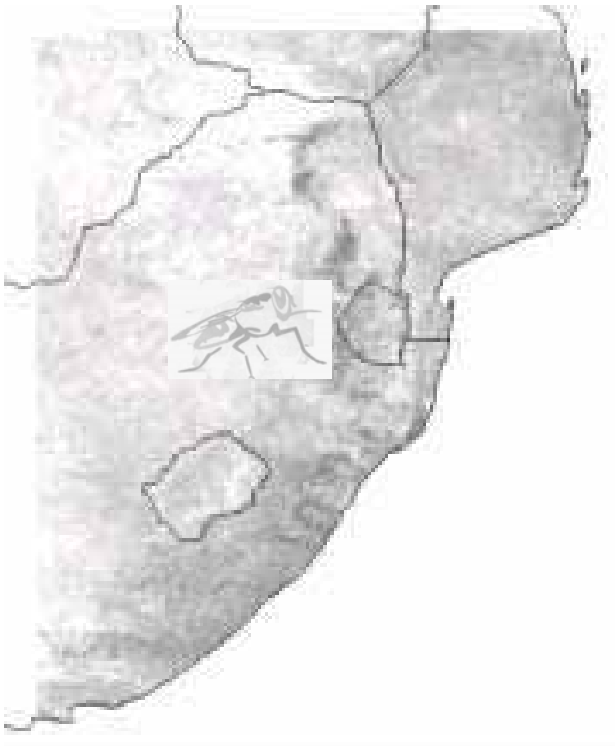

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TSETSE SURVEY IN SWAZILAND

Executive Summary

A tsetse survey in Swaziland was undertaken in order to establish the true picture of trypanosomiasis in the country for it to be declared a Tsetse and Trypanosomiasis free zone, in view of the fact that no Human African Trypanosomiasis (HAT) cases have been reported for more than a century and only two African Animal Tryapanosomaisis cases have been reported in the last two decades (but even in these cases the animals came across the border). Based on historical fly distribution data, an area of approximately 7,475 km^2 was originally demarcated for the survey. This area was divided into 75 grids (each 10 x 10 km). The actual area was further reduced to approximately 3,525 km^2 on the basis of satellite images observed for each grid and field reconnaissance prior to deployment of traps. 372 H-traps were deployed in this area covering an area of approximately 3,000 km^2. The survey area extended from Lavumisa in the South to Lomahasha in the North and the Northern part of Swaziland where Mbuluzi River starts right up to the area it enters Mozambique. This area falls in Hhohho, Lubombo and Shishelweni districts and a greater part of it falls in the lowveld area to the East, which borders Mozambique and South Africa. *Glossina austeni* in very low densities were found in Mlawula Park close to the Mozambique border. Even though the tsetse fly densities were very low this has implications for the creation of tsetse free zones in South Africa and in Southern part of Mozambique, as this area could be a site for reinvasion. Trap catches included >5,000 Stomoxys, >300 Tabanid flies and >2,000 other insects.

Prior to the survey exercise a brochure for community sensitization was prepared and translated into siSwati (local language). Nearly 4,500 copies of this brochure were distributed in the survey area to Farming Communities, Cattle Ranches, Royal Swazi Police, Royal Defense Army and Game Parks in order to sensitize the communities for the smooth operation of the survey exercise.

Capacity building was an integral part of the exercise and twenty National participants have been trained in basic tsetse survey methodologies and 7 participants who were derived from the relevant Ministries have got hands-on training in trap deployment, maintenance and data collection.

In view of the fact that the *G. austeni* is not involved in the transmission of HAT and no cases have been reported for nearly a century the labeling of Swaziland as an HAT endemic country is questionable. A second seasonal survey that should include a parasitological assessment is recommended to confirm the distribution of tsetse and determine the trypanosomes involved. The survey team and the stakeholders involved have made several other recommendations, which are highlighted, in the main report.

Background to HAT and Tsetse Distribution in Swaziland

Tsetse flies, the vectors of sleeping sickness (Human African Trypanosomosis) and nagana (Animal African Trypanosomosis) are unique to Africa. The disease occurs in 36 sub-Saharan African countries covering close to 9 million km^2, an area that corresponds approximately to one-third of the Africa's total land area.
Human African Trypanosomosis (HAT) threatens an estimated 60 million people while 45-50 million head of cattle are at risk of African Animal Trypanosomosis (AAT). In 1998, WHO estimated that about 300,000 to 500,000 HAT cases exist that largely remained undiagnosed and therefore, untreated. During recent epidemics in several villages in the Democratic Republic of Congo, Angola and Southern Sudan the disease prevalence reached up to 50% (WHO, 2006). Every year, AAT causes about 3 million deaths in cattle while approximately 35 million doses of trypanocidal drugs are administered. Nagana has a severe impact on agriculture and food security in sub-Saharan Africa. The economic losses in cattle production alone are in the range of US$ 1.0 – 1.2 billion. In a weighted evaluation Budd (1999) extrapolated for all tsetse-infested areas the total losses, in terms of agricultural Gross Domestic Products, at US$ 4.5 billion per year. African countries affected by trypanosomiasis recognise that the disease represents a major constraint to human and livestock health and better land use and to addressing the continuing problem of underdevelopment on the continent (Assembly of Heads of State and Government, July 2002, Lomé, Togo).

HAT cases in Swaziland

HAT is listed in WHO records to be endemic in Swaziland, yet for many years no HAT cases have been reported and consequently, WHO has not provided any drugs for treatment. During the initial planning mission in Swaziland (13^{th} – 19^{th} January 2008), the Statistics Department of the Ministry of Health in Swaziland indicated that they have no records of any HAT cases in Swaziland for last 10 years for which they have been keeping records. Medical reports from 1911 to 1934 available from the National Archives in Mbabane also have no documentation of any HAT cases or of the presence of vectors in the country. In fact, the Annual Medical and Sanitary Report of 1928 clearly states that there is no trypanosomiasis present in Swaziland. **(See Annex 1, page 2)**

Animal Trypanosomiasis (Nagana) cases in Swaziland

Prior to the planning mission in January, a Questionnaire **(see Annex 2)** was developed and circulated to the relevant Ministries and other Stakeholders in Swaziland in order to determine the knowledge and treatment of T & T and other animal diseases in the country. The answers received and in discussions with the staff of the Ministry of Livestock and Veterinary Services it was clear that trypanosomiasis was not a major problem in Swaziland and no cases of AAT have been reported in Swaziland for a long time. The Livestock and Veterinary Services Department mentioned that in 1980 and 2003, one animal was diagnosed with trypanosomiasis but in both cases the animal had came from KwaZulu Natal in South Africa. Tick and tick-borne diseases caused by a variety of ticks were the most prevalent animal diseases and in order to control them, farmers commonly used trypanocides. Dipping of cattle with acaricides was a common practice and mandatory for all livestock keepers. Acaricides were purchased by the government and provided at no cost to farmers. Knowledge about T & T was academic among the veterinary staff and completely lacking in farmers.

After the survey was undertaken, the Principal investigator was informed by the Deputy Director of Department of Veterinary Services, that while going through the archives he had found in the Veterinary Services Annual Report of 1950 a mention about tsetse and trypanosomiasis in Swaziland when a special unit working on tsetse and trypanosomiasis within the Veterinary department existed. According to the report a few tsetse (*G. austeni*) were trapped in Mlawula Nature Reserve but it was concluded that the population was too small to cause any problem. Deforestation along the boarder of Mozambique was the main control strategy employed (the cordon line was supposed to be without thick vegetation). *Trypanosoma congolense* was also diagnosed in a few animals in the Lavumisa area but all efforts to trap flies were unsuccessful. *T. congolense* has also been subsequently diagnosed in 2001 in the same area. Tsetse trapping in 1998 – 1990 undertaken by a Veterinarian from UK was unsuccessful.

Distribution of Tsetse in Swaziland (from Historical & Current work in Southern Africa)

No specific records exist of tsetse distribution in Swaziland *per se* but could be deduced from graphic and textual sources available for Southern Africa. Particularly relevant are the papers by Fuller (1923) and du Toit (1954) which provide guidelines for fly distributions up to the mid 50's in Zululand and Transvaal respectively. In addition, the work of Kappemeier *et al.,* (1998, 2007) and the AVIA-GIS (2002) report to IAEA provide important information on the distribution of flies in KwaZulu Natal and Southern Mozambique. Predictive maps **(Annex 3a, Figs. 9-12)** of tsetse presence or absence (http://ergodd.zoo.ox.ac.uk) also provide information on the limits of distribution of *morsitans* group of flies.

According to the work of du Toit (1954), Fuller (1923) and Kappemeier *et al.,* (1998) **(Annex 3a, Figs. 2 – 5)** it may be concluded that the distribution of *morsitans* flies in two lobes extends from Southern Zimbabwe into North Eastern South Africa. Of, these two lobes, the Eastern one **(Annex 3a, Figs. 4 & 5)** extends into Northern Swaziland up to the Mbuluzi River (latitude 26° South**;** (suggestion of du Toit (1954). A further population identified as *G. pallidipes* by Kappemeier *et al.,* (1998) and du Toit (1954) extends South East of Swaziland right into Kwa Zulu Natal. Thus, according to these authors *G. pallidipes* is also present in the South East corner of Swaziland. AVIA-GIS maps **(Annex 3a, Figs 6 & 7**), though not specific for Swaziland indicate absence of *G. austeni* and *G. brevipalpis* close to the South Eastern border of Swaziland. A study of the prevalence of trypanosomosis in Kwa-Zulu Natal **(Annex 3a, Fig. 8)** indicates very low incidence of the disease along the south eastern border of Swaziland (Kappemeier *et al.,* 1998). AAT is also prevalent in neighboring Mozambique. Interestingly, the strategy for the creation of a tsetse-free zone in the Republic of South Africa and in the Southern part of the Republic of Mozambique (Kappemeier *et al.,* 2007) in order to achieve the objectives of the Pan African Tsetse and Trypanosomaisis Eradication Campaign (PATTEC), does not take into account the probability of the presence of flies in Swaziland neither along the border with South Africa or that of Mozambique. **(see Annex 3b for Sources of Additional information)**

Capacity for T&T Control in Swaziland

Due to lack of recorded trypanosomiasis cases, there is also a lack of capacity in Swaziland with regards to vector control and survey methodologies.

In view of the above it was imperative to undertake an assessment on the presence or absence of the disease and the vector in the country and to establish the true picture of trypanosomiasis in Swaziland.

Goal of the Project

Establish the true picture of trypansomiasis in Swaziland for the country to be declared a Tsetse and Trypanosomaisis free zone.

Objectives:

The Primary objectives of the tsetse survey in Swaziland were:

- Determine the precise presence, abundance and distribution of tsetse populations in the country
- Determine all the tsetse species present in the area
- Determine the relative abundance (apparent densities) of each species present and seasonal changes in apparent density in geo-referenced positions
- Identify the main ecological niches (habitats) for each tsetse species
- Determine the presence of other biting flies (Tabanidae, *stomoxys spp*.)
- Assist PATTEC, South Africa and Mozambique to prepare appropriate plans for eradication of tsetse in the region
- Capacitate national systems in tsetse trapping and survey methodologies
- Circulate survey report to host country and all international stakeholders.

Sampling Methodology

a) Defining the Survey Area

The survey area was defined taking into consideration:

- all the historical and current information regarding tsetse distribution in Southern Africa (as indicated above),
- using predictive tsetse maps (http://ergodd.zoo.ox.ac.uk),
- using satellite images (obtained from Regional Centre for Mapping of Resources for Development (RCMRD) in Nairobi and
- National survey maps of Swaziland (obtained from the office of the Director General of survey and mapping in Mbabane.

In view of the above, the survey area was defined as shown in **Annex 4** and was divided in 10 x 10 km UTM grids for survey purposes. The survey area falls in Hhohho, Lumbombo and Shiselweni Districts. The Hhohho area comprises of the mountainous highveld with a temperate climate but was included as per the suggestion of Fuller (1923) and du Toit (1954). Greater part

of the surveyed area falls in the Lowveld area to the East, which is sub-tropical and includes the Eastern zone along the Lubombo Mountains, which form Swaziland's border with Mozambique. The survey area also covered parts of the Shiselweni region, Lubombo region and Hhohho region along the South African border. An identification system for each grid squared for assisting in the survey and in correctly assigning data was established. Initially 75 grids were demarcated for survey (an area of approximately 7,475 km^2). Some of these grids were further subdivided into halves or quarters for surveying based on observations of satellite images of the respective grid and on land use maps.

In order to assist in the identification of grids and in navigation between the grids, the coordinates of the mid point of each grid (centroid) were worked out in advance and saved as way points on the GPS to be used in the field **(see Annex 5)**

b) Sampling Device and Trapping Methodology

H-traps (Kappmeier, 2000) provided free of charge by Vestergaard Frandsen were used as standard-sampling devices placed roughly 4/km^2. Traps were placed in each grid depending on vegetation type, drainage system, accessibility and human activities (settlements or cultivated land). All traps were baited with cow urine dispensed at 100 mg/hr from plastic bottles with an aperture of 2x4 cm cut at the sides and with acetone, dispensed at 500mh/h from glass bottles with an aperture of 2mm at the top. All trap posts were greased to prevent ants from damaging the catch.

It was estimated that a minimum period of 3 days trapping per grid square of 10x10 km was required to reduce variability of trap catches to acceptable levels and was therefore taken as minimum period of sampling in each grid (determined to give 95% probability of detecting any tsetse in the area). On the fourth day after sampling, traps were removed and moved to the next set of grids.

In order to maximize on survey time, each team worked on a 5-day cycle as follows:

Day 1 Reconnaissance and deployment of traps in a grid (a 10 x 10 km grid)
Day 2 Reconnaissance and deployment of traps in a second grid and sampled flies in grid 1.
Day 3 Sampled flies in grids 1 & 2
Day 4 Sampled flies in grid 1 and removed traps, and sampled grid 2, reconnaissance and deployment of traps in next set of grids.
Day 5 Sampled flies in grid 2, removed traps and started deployment of traps in next grid.

The method of data collection and recording and the way it will be analyzed was standardized prior to the initiation of the survey. This involved having pre printed data recording sheets for field use **(see Annex 6).** The data recording sheets included detailed GIS coordinates of each trap deployed and the tsetse flies, biting or other insects caught. Each geo-referenced trap had a unique identifying number and a combination of letters indicating the grid in which it was placed, the trap number and the vegetation type.

For example: **H5T06T** indicates: Grid H5; Trap No. 06 and Vegetation as Thicket

c) Survey Teams

Two survey teams each comprising of a technician driver, tsetse entomologist and one field technician were formed **(see Annex 7 for details).** These teams were responsible for reconnaissance, deployment of traps, collecting flies and initial recording of data. The third team comprised of a driver, the data entry person and the overall supervisor/manager of the survey. The latter team also assisted in deployment of traps and data collection. The field teams brought their data to the data entry person every evening, who downloaded and entered it into a single master database and also made backups of the data. The two teams were supervised by the Principal Investigator / Senior Tsetse Entomologist who ensured that the survey plan protocol was followed and also verified the accuracy of the data entry. GIS expertise was provided by a GIS expert from RCMRD who also developed the tsetse fly sample grids over the study area including scanning of maps and providing satellite imagery, plotting of GPS readings, development of tsetse spatial databases from field observations and production of maps.

Tsetse species were identified using conventional identification keys that are available in standard texts (e.g. from Mulligan, 1971; FAO training manual Vol.1 1982; or by using the computer identification software developed by IRD/CIRAD and available in CD-ROM.

d) Trap and Tsetse Distribution

All Grid-Squares and trap sites were geo-referenced using the Global Positioning System (Garmin GPS) for later incorporation in a Geographical Information System (GIS). The habitat types were classified according to the vegetation cover of the area e.g. woodland, grassland, cultivated land, forest and thicket. The coordinates of all trap sites were entered into a database and the information was used to produce tsetse and other biting fly's distribution maps.

e) Estimation of Apparent Density

Since it is not possible to precisely estimate the density of a tsetse population in a given area, or even a rough estimate of the density by trapping, the apparent density (which roughly reflects changes in real density of the population) was calculated. The apparent density which is relative to the type of sampling tool (trap) used is expressed as the average number of flies caught per trap per day (**flies/trap/day**) or **FTD.** The apparent density was calculated by dividing the total number of tsetse captured (**ΣF**) by the product of the number of functioning traps used to catch them (T) and the number of days for which traps were operational (D)

$$FTD = \mathbf{\Sigma F}/TxD$$

If a trap was not operational for some reason, e.g. it was vandalized, stolen, blown down or destroyed by cows, that trap-day was excluded from the sum of trap days.

f) Sensitizing the Local Population to the Objectives of the Sampling Exercise

Farming communities and the local authorities were sensitized on the survey to be undertaken and especially made familiar with the traps that were placed in their farms. Community involvement ensured that the technicians were allowed passage in their farms / ranches for deployment of traps and that the traps were protected and not vandalized. In order to sensitize the local communities, a brochure was prepared and translated into siSwati **(see Annex 8a, b & c for details).** The officials from Ministry of Health and Social Welfare and Ministry of

Agriculture and Cooperatives in Swaziland were given responsibility for sensitizing the communities and informing the Game Parks and Private Ranches in advance of the survey exercise.

g) Capacity Building

One of the major objectives of the survey was to capacitate the National staff in basic tsetse biology and ecology and undertaking baseline surveys. The following training courses were offered:

Basic tsetse biology and ecology
Vector control techniques
Baseline tsetse survey methodology
Trap deployment and servicing and interpretation of trap catches
Data collection

Since National staff were also part of the survey teams, hands-on-training in trapping of vectors was provided to them.

Accomplishments of the Survey Exercise

The schedule of the entire exercise is shown in **(Annex 9).** The results of the survey are presented below under the following headings:

Area surveyed and insects caught
Community sensitization
Capacity building
Recommendations and conclusions by the survey team
Recommendations of stakeholders

1. Area surveyed and insects caught

A typical sampling day (Annex 10) was as follows:

0600h – 0630h	Breakfast
0630h	Departure for field
1800h	Return from field
1900h – 2030h	Dinner
2030h – 2115h	Briefing of day's activities and workplan for the next day

All the teams worked full time without any weekends from 12th April to 7th May 2008 (actual survey time)

The original area demarcated for the survey comprised of 75 grids (each 10 x 10 km) which is equivalent to approximately 7,475 km^2 **(Annex 4**). This area was further reduced to approximately 3,525 km^2 on the basis of satellite images observed for each grid and field reconnaissance prior to deployment of traps. This reduction was due to vegetation cover (man-made forests, cultivated lands), or human settlement (houses, villages, towns etc.). **Annex 11, Map 1** shows the grids suitable for sampling and the traps deployed in the various grids. The area in which 372 H-traps were deployed covered an area of 3,100 $km^{2.}$ This area extended from Lavumisa in the South to Lomahasha in the North and the Northern part of Swaziland including the area from where the Mbuluzi River starts right up to the area where it enters Mozambique. The area where Mbuluzi River starts was open grassland and the habitat is not suitable for tsetse. The various habitats surveyed including where traps were deployed are shown in **Annex 12** while the entire exercise of a trap being deployed is shown in **Annex 13.** The survey teams were greatly assisted in trap deployment and protection along the Mozambique and South African borders by the soldiers of the Swaziland Royal Defense Army and by the Game wardens in the various games reserves surveyed.

Vandalism of traps by Cows
10 traps were completely destroyed by cows that partially ate the traps (**see Annex 14**). This peculiar behavior of the cows was seen along the Mozambique border in Grids J03 & J08. In fact, the soldiers of the Royal Defense Army of Swaziland warned us in advance that the cows in the region were notorious for eating cloth. Since community sensitization (see below) in advance was largely very successful, vandalism by people was minimum and only two traps were lost.

Tsetse flies trapped

Annex 11, Maps 2 & 3 show the overall traps deployed and the traps in which tsetse were caught. The tsetse caught were identified as *Glossina austeni.* These flies were however caught in very low numbers (only 7 of which 3 were males and 4 were females). These tsetse flies were caught in Mlawula Nature Reserve (in Grid I05) close to the Mozambique border. No tsetse were caught in the neighbouring game reserves of Hlane and Mbuluzi. Similarly, no tsetse were caught in the Mbuluzi gorge in gird J04 which borders Mozambique. In fact, no flies were also caught along the Mbuluzi River in grids I04 and J04 up to the point it enters Mozambique. No tsetse were also caught along the South African border in the South, Southeast or North of Swaziland.

Other biting flies trapped

Annex 11, Map 4 shows the traps deployed and the traps in which other non tsetse biting flies were caught. While Stomoxys were wide spread in the areas surveyed (>5,000 Stomoxys caught), Tabanids were much fewer in numbers (only about 300 Tabanid flies were caught). Over 2300 other insects comprising of grasshoppers, moths, houseflies, wasps, bees, beetles etc were also caught in the traps.

Annex 15 contains all the Un-aggregated Data Sheets, while **Annex 16** shows the Summary sheet of the traps deployed in various grids and the insects caught. **Annex 17** in enclosed CD contains all the GIS files and the Maps produced.

2. Community Sensitization

The brochure prepared by Dr. R.K.Saini 'Is Africa's Deadly Fly (Tsetse) present in Swaziland was translated into siSwati (local language) by the Ministry of Agriculture and Cooperatives (**see Annex 8a, b & c**). 4,400 copies of this brochure were distributed in the survey area to farming communities, cattle ranches, Royal Swazi Police, Royal Defense Army, and Game Parks etc. Members of the survey team explained the objectives of the survey to the various stakeholders prior to deployment of traps. On the whole, the survey teams received excellent collaboration and good will from the community members in all the areas surveyed.

All the Private Cattle Ranches and Game Parks which included: Hlane Royal National Park, Mlawula Nature Reserve, Mbuluzi Game Reserve and Nilsela Game Reserve were very cooperative and allowed free access to the game parks for the survey. They also provided game wardens to assist the survey teams and to protect them from wild animals. Mkhaya Game Reserve, however, was the exception and could not be surveyed because of the uncooperative attitude of the Management. One of the Royal Farms was also not accessible.

Community sensitization would have been much better, if the relevant Ministry had informed its extension services well in advance of the survey exercise. Some minor problems were encountered in Grid F15 near Salitje, Grid I03 near Lomahasha and Grid H07 near Kalangea (close to Siteki) where the community called the police due lack of information regarding the traps deployed within these sites. However, explanation by the members of the survey teams quickly resolved the misunderstanding and the tense situation.

In the entire survey exercise only 2 traps in Grids E01 and E02 were lost due to vandalism.

3. Capacity Building

One of the objectives of the Trypanosomiasis survey in Swaziland was to capacitate the National Systems in tsetse trapping and survey methodologies so that in future indigenous capacity exists to undertake similar surveys. This objective was met through:

a training workshop held for 20 national participants and
through hands-on field training of 7 participants.

Training of National Staff on Wednesday 9th April at Siteki Hotel, Swaziland

20 participants attended the day long training workshop **(see Annex 18 a & b).** These participants included: 8 from the Ministry of Health and Social Welfare, 10 from the Ministry of Agriculture and Cooperatives and 2 from the WHO Regional Office. The workshop was opened by Dr. Roland Dlamini; Deputy Director, Veterinary Services.

Lectures were given on:

Basic tsetse biology and ecology – *Dr. R.K. Saini*
Integrated vector control techniques – *Dr. R.K. Saini*
Baseline tsetse survey methodology – trap deployment, servicing, data collection and interpretation of data (*John Andoke*)

After the lectures a demonstration was given on how to deploy the H-trap **(see Annex 18 b for details)**

Hands-on Training in Trap Deployment and Survey Methodologies

Seven participants – 3 each from the Ministries of Health and Agriculture and 1 participant from WHO, participated as survey team members for a whole month and hence have got hands-on training in trap deployment, maintenance and data collection. These 7 personnel can now be focal points for further training and undertaking any future surveys.

4. Recommendations and Conclusions by the Survey Team

Based on the above results the following conclusions can be drawn:

1. Swaziland is not a tsetse and trypanosomiasis free zone.

2. Since no human trypanosomiasis cases have been reported for more than a century and the vector present – *G. austeni* is not involved in transmission of human trypanosomiasis and in view of the fact that WHO has not provided any drugs for treatment of HAT cases in the last 10 decades, Swaziland cannot be labeled as a HAT endemic country. At the most it may be labeled as a country at risk.

3. Even though, only two cases of animal trypanosomiasis have been recorded in the last nearly 30 years, the presence of *G. austeni*, which is known to transmit nagana, cannot

rule out Swaziland being at risk from animal trypanosomiasis especially along the Mozambique border where the situation should be monitored very carefully.

4. Creation of tsetse free zones in the Republic of South Africa and Southern part of Mozambique cannot ignore the presence of tsetse on the Eastern border of Swaziland with Mozambique. This area could be a site for reinvasion into Mozambique and hence in any control/eradication plans Swaziland must be included.

5. AU/PATTEC, PAAT and relevant authorities in South Africa and Mozambique should be made aware of the presence of *G. austeni* in Swaziland.

6. A second seasonal survey is recommended to WHO to confirm the further presence of tsetse in Swaziland. It is also recommended that this should be accompanied by a parasitological survey in order to determine the trypanosomes present in the flies and cattle (especially in the Mlawula Park area).

7. Mkhaya Game Reserve to which the survey teams were denied access needs to be surveyed. In addition, it is recommended that the deep valleys along the Mozambique border, need to be surveyed in more detail as *G. austeni* may be present there.

5. Recommendations of Stakeholders

The results of the survey were presented to all stakeholders at a debriefing meeting held at the Ministry of Agriculture and Cooperatives conference room on Friday 9th May, 2008. The agenda for the meeting is shown in **(Annex 19)** and the list of Stakeholders present is shown in **(Annex 20**). The Director of Veterinary Services, Dr. Thwala, chaired the meeting and the stakeholders present included the Permanent Secretaries from the Ministries of Agriculture and Health and representative of the WHO Country Office - Mbabane. The representatives of the Game Parks were also present.

The stakeholders thanked Dr. Saini for the professional manner in which the survey was undertaken and the results presented. They endorsed the recommendations and conclusions of the survey team and as the way forward recommended:

1. A request be made to WHO to support the second seasonal survey, which should include a parasitological analysis.

2. All partners including AU/PATTEC, PAAT and the neighbouring countries of Mozambique and South Africa be informed of the survey results.

3. Since flies were present in Swaziland, the Ministry of Agriculture and Cooperatives should undertake additional surveillance and monitor the nagana situation in the affected area.

4. Since no HAT cases have been reported for nearly a century in Swaziland the country requests WHO to remove it as being listed as an endemic country.

5. The stakeholders agreed that after the second survey they would plan on elimination of the *G. austeni* pocket in Mlawula Nature Reserve or any other pockets along the Mozambique border.

6. The technical staff that had been trained and participated in the survey work could form the nucleus for survey of other vector borne diseases.

7. That community sensitization should be improved prior to any such survey and agreed to improve it prior to the second survey and also to get permission from Mkhaya Game Reserve and the King's Farms for survey purposes.

8. That all the Swazi participants in the survey work be awarded certificates for their participation and for being trained in tsetse baseline survey methodologies.

9. That the final report be submitted in both hard copies and in CDs through the WHO Country Office.

Dr. Saini thanked them for their input and agreed to forward the above recommendations to WHO and other international bodies for their necessary action.

Acknowledgments

The Team Leader of the Trypanosomiasis survey mission in Swaziland, Dr. R. K. Saini would like to record his appreciation and gratitude to the following for their unreserved cooperation and assistance in ensuring that the survey was successfully carried out and completed on schedule **(Annex 21).**

1. WHO Headquarters, Geneva, Switzerland for providing the funds and their support.

2. WHO Country Office - Mbabane:
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   Dr. Augustine Ntilivaumda – HIV/AIDS Country Office
   Dr. Benjamin Gama - HIV/AIDS Country Office
   Mr. Ebrima Ndure – Administrative Officer
   Mrs. Hleli Dlamini – Administrative Assistant
   Mr. Thamsanqa Dlamini – ITC Officer
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3. Ministry of Health and Social Welfare – Malaria Unit
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   Zulisile Zulu – Malaria Researcher
   for providing two vehicles and 3 technical staff

4. Ministry of Agriculture and Cooperatives
   Dr. Robert Thwala – Director
   Dr. Roland Dlamini – Deputy Director
   for providing 3 technical staff and in community sensitization

5. Vestergaard Frandsen A/S – Mr. Torben Vestergaard Frandsen for free supply of tsetse H traps

6. Regional Centre for Mapping of Resources for Development (RCMRD), Nairobi, Kenya

7. Survey Team Members:
   John Andoke – ICIPE Nairobi
   Peter Muasa – ICIPE Nairobi
   Caroline Muya – ICIPE Nairobi
   David Camp – WHO Regional Office
   Vusie m'Kumalo – Veterinary Service, Manzini (MoAC)
   Samson Manana – Veterinary Service, Manzini (MoAC)
   Paoulos Khoza – Malaria Unit – (MoH)
   Joel Matse - Malaria Unit – (MoH)
   Musa Mndzeble - Malaria Unit – (MoH)
   Augustine Motsa - Veterinary Service, Manzini (MoAC)
   for their hard work

8. Royal Swazi Police and Royal Defense Force for providing security especially along the Mozambique and South African borders

9. Game Parks - Hlane Royal National Park; Nisela Park; Mlawula Nature Reserve; Mbuluzi Game Reserve; for providing game wardens and free access to the parks.

10. Cattle Ranches – Bar Circle Ranch; Crookers Farm; Iysis, King's Farms and Mtfumunde Ranch for allowing free access to their private ranches for the survey.

Annexure

Annex 1 Swaziland Annual Medical and Sanitary Report for the year ended 31st December, 1928 (D. 11131/29.)

SWAZILAND.

ANNUAL MEDICAL AND SANITARY REPORT FOR THE YEAR ENDED .31ST DECEMBER, 1928.

I. Administration.

(a) STAFF.

European.

1 Principal Medical Officer.
1 Medical Officer.
3 Doctors (subsidized~.
3 Hospital Assistants and Dispensers.
1 Typist.
1 Female Nurse.
2 Female Nurses (subsidized).

Native.

4 Hospital Orderlies.
1 Laundress.
3 Native Employees.

One Hospital Assistant and Dispenser, 1 Native Orderly, and 1 Native Laundress were appointed during the year.

(h) LIST OF ORDINANCES AFFECTINO PUBLIC HEALTH ENACTED DURING THE YEAR

The Swaziland Medical Inspection of Schools Proclamation, No. 2 of 1928. The Regulations (High Commissioner's Notice No. 12 of 1928) published under the above Proclamation.

(e) FINANCIAL.

The revenue earned by the Department was £56 13s. 3d. and the expenditure £5,104 Os. 7d. The ratio of medical expenditure to the total revenue of the Territory was as 1 to 14.

II. Public Health.

(a) GENERAL REMARKS.

(I) General Diseases.

A continually increasing knowledge of the nature of the prevalent diseases of the Territory leads to the following observations. Epilepsy is most extraordinarily prevalent all through the country. It is not possible to get at any figures, but the large number of out-patients who come to be treated for this complaint, the number of cases one finds in the goals and the number of offences directly traceable to the effects of this disease dealt with in the courts of the Assistant Commissioners point to a very high incidence of the malady. No feasible explanation of this has been put forward. Scurvy is always common towards the end of the winter and 'disappears again in the early summer when a supply of green food becomes available.

Rheumatism is very prevalent in 'the higher parts of, the country, the extreme and rapid variations in the climate and the higher rainfall in those parts of the country probably account for this. Diseases of the respiratory system are common in the parts of the country where rheumatism is prevalent, and the reasons are probably the same. Pneumonia is not common, but colds and chronic bronchitis occur~ frequently. Asthma is very common indeed in the country, and there must be something that tends to bring out this condition as persons from outside who have a tendency to it almost invariably get this disease after a few days spent in the Territory.

A few cases of pellagra crop up every year.

Ainhum is common in the country. The experience of the Medical Officer, Hiatikulu, is that it is found mostly in males, while most of my cases have occurred in females.

Med. and San.—Gp. 6. *56/2179.* 3. 3. 3. 24. *75.* 9/29. (3840) M. & S.

(II) *Communicable Diseases.*

Mosquito or insect-borne.

The only disease of this nature is malaria. This year there was a very severe outbreak all over the middle and low veld, and several cases of blackwater 'fever occurred.

There is no trypanosomiasis, yellow fever, filariasis, or relapsing fever. One would expect the latter as the vector is common all over the country, is well known to the natives, and huts where it is known to exist are avoided by them. They consider the bite is poisonous, but no cases of relapsing fever have ever been found, the natives do not know the disease and the effects of the bite are considered by them to be immediate and only local.

Infectious Diseases.

Amoebic dysentery occurs as isolated cases all over the Territory and many more cases than usual were treated this year.

There was an outbreak of bacillary dysentery at Hluti in Hiatikulu District but prompt and effective measures were taken and the outbreak soon stamped out.

Typhoid. There was a serious outbreak of this at one of the European schools in the Hlatikulu area and one death occurred. Here again prompt measures soon put an end to the outbreak. There were a few cases in Bremersdorp but not so many as usual. The installation of the filter bed in the water supply probably helped to diminish the cases. Unfortunately some parts of the township do not get their supply from this source. The water after filtration was bacteriologically tested and found to be good.

The rest of the Territory was very free from this disease.

I am afraid there can be no doubt that tuberculosis in all forms is slowly increasing amongst the natives. Bone and joint affections are not very common but tuberculosis of the glands is quite common and pulmonary tuberculosis is also common, the latter is probably more common than hospital practice would tend to indicate as there is no doubt that many of these cases residing in distant kraals never seek assistance.

Syphilis does not seem to be on the increase. A gratifying feature in connection with this disease is that the number of infected natives who voluntarily seek treatment is on the increase every year. Statistics collected from the incidence of this disease amongst the natives working on the Gold Mines show that the Swazis are comparatively free from it.

There was no outbreak of any of the ordinary infectious fevers during the year.

Helminthic Diseases.

Taeniasis and ascariasis are very prevalent. Oxyuris vermicularis is found occasionally.

Schistosomiasis is very common all over the country below a level of about 3,000 feet. Large numbers of natives are treated for it. It i~ hard to control this disease in such a very scattered community but where townships exist in the infected area attempts are made to prevent the use of water known to he infected.

Ankylostomiasis, trichinosis and guinea worm are unknown.

Vital Statistics.

(1) *General Native Population.*

Estimated population in 1928, 120,000 (over-estimated in 1927).

No other statistics are available. Registration is not compulsory, but every kraal should be compelled to report a death and to give a short account of the nature of tile illness, so that some idea of the cause of death can be obtained.

(2) *General European Population.*

Estimated number of residents, 2,600.
Total deaths, 20.
Percentage of deaths to total residents, 0.76.
No other statistics are available.

(3) *European Officials.*

Table showing the Sick, Invaliding and Death-Rates of European Officials.

	1926.	*1927.*	*1928.*
1.Total number of officials resident	81	83	85
2.Average number resident	76	80	80
3.Total number on Sick List	10	7	16
4.Total number of days on Sick List	440	201	617
5.Average daily number on Sick List	1.20	0.55	1.7
6.Percentage of sick to average number resident	1.58	0.68	2.12
7.Average number of days on Sick List for each patient	44	28.71	38.56
8.Average sick time to each resident	5.78	2.5	7.71
9.Total number invalided	Nil	Nil	Nil
10.Percentage of invalidings to total residents	Nil	Nil	Nil
11.Total deaths	Nil	Nil	2
12.Percentage of deaths to total residents	Nil	Nil	2.35
13.Percentage of deaths to average number resident	Nil	Nil	2.5
14.Number of cases of sickness contracted away from residence	Nil	Nil	Nil

(4) *Native Officials.*

Table showing the Sick, Invaliding and Death-Rates of Native Officials

	1926.	*1927.*	*1928.*
1.Total number of officials resident	147	144	145
'2.Average number resident	137	135	135
3.Total number on Sick List	62	49	55
4.Total number of days on Sick List	634	262	650
5.Average daily number on Sick List	1.73	0.71	1.78
o.Percentage of sick to average number resident	1.26	0.49	1.31
7.Average number of days on Sick List for each patient	10.22	5.34	11.81
8.Average sick time to each resident	4.62	1.9	4.81
9.Total number invalided	1	Nil	Nil
10.Percentage of invalidings to total residents	0,68	Nil	Nil
11.Total deaths	Nil	Nil	Nil
12.Percentage of deaths to total residents	Nil	Nil	Nil
13.Percentage of deaths to average, number resident	Nil	Nil	Nil
14.Number of cases of sickness contracted away from residence	3	1	2

III. Hygiene and Sanitation.

There is no Sanitary Department.

(A) General review of work done and progress made.

1. *Preventive Measures.*

Mosquito and Insect-Borne Diseases. Distribution of quinine was continued as in past years.

Epidemic Diseases. Typhoid vaccine is administered as required.

Helminthic Diseases.— The position continues the same as mentioned in previous reports.

II. *General Measures of Sanitation.*

Government-controlled bucket latrines are used in township areas, and persons outside these areas have to conform to this system, which is the best practical system under present conditions.

The water supply, usually obtained from springs, is fairly good. Sanitary inspections are made from time to time.

.111. *School Hygiene.*

This is directed by the teachers.

1V. *Labour Conditions.*

Nearly all the natives working in the country are employed as farm labourers.. Practically the only industries are the tin mines, these are alluvial and therefore all surface work, and a small gold mine at Forbes Reef which is only in the development stage and employs only a few natives. Measures are being taken to improve the sanitary conditions on the tin mines.

V. *Housing and Town Planning.*

There is nothing to report under ‘this head.

VI. *Food in relation to Health and Disease,*

Food supplies’ have not given any trouble, and, under existing conditions, regular inspection is not necessary. Slaughtering is done at specially appointed places, and is supervised by the Police. During most seasons of the year the natives have a plentiful supply of food, although they suffer from a lack of green food during the winter months.

B. *Measures taken to spread the knowledge of Hygiene and Sanitation.*

None, except that incorporated in school teaching.

D. *Recommendations for future work.*

Measures should be taken to improve the water supply in all townships.

IV. Port Health Work and Administration.

Not applicable.

V. Maternity and Child Welfare.

There is nothing to report under this head.

VI. Hospitals, Dispensaries, and Venereal Clinics.

As it is almost certain that the new Mbabane Hospital will be built next year,. only a brief reference will be made to the present Hospital, which is obsolete.

254 Patients were’ admitted during the year, which with the 31 remaining from the previous year gives a total of 286 treated in Hospital.

There were 8 deaths.

Chief causes of admission were syphilis, malaria and injuries.

7,050 out-patients were treated during the year.

The new Government Hospital at Hiatikulu was opened for out-patients in January,. and for in-patients on 30th October.

It is small but excellently equipped, and has accommodation for 4 European and. 4 Native patients.

It is hoped that it will be found possible to enlarge this hospital in the near future,. as it is much too small.

The staff consists of 1 European Hospital Assistant in charge, 1 female European trained nurse, 1 Native laundress and nurse help, and 2 Native orderlies.

12 cases were admitted. There were no deaths.

3,409 out-patients were treated during the year.

The Mission Hospitals at Bremersdorp and Mahamba continue to do very useful’ work, and are treating increasing numbers of patients.

They are both excellently equipped and staffed.

Available details appear in the annexure to Table V.

The Government Dispensary at Mankaiana, and Mission Dispensaries at .Stegi and Pigg’s Peak are also doing useful work.

TABLE **I.**

Medical Staff.

Dr. B. Jamison, Principal Medical Officer; Dr. F. A. Donolly, Medical Officer.

Subsidized Doctors.

Dr. C. S. Gibbons, Mbahane; Dr. B. Hynd, Bremersdorp; Dr. A. T. Till, Mahamba.

Principal Members of the Subordinate Staff.

Mr. II. B. Barnard, Hospital Assistant; Mr. J. O'N. Anderson, Hospital Assistant; Mr. A. G. Lunnis, Hospital Assistant; Mrs. Rose, Nurse; Mrs. M. L. Anderson, Typist.

Subsidized.

Miss Pelley, Nurse; Miss Carpenter, Nurse.

Principal Changes.

Mr. A. 0. Lunnis was appointed during the year.

TABLE **II.**

Revenue of Swaziland	£114,301. 13 5
Expenditure .of Swaziland	£123,930 6 6

TABLE III.

This table cannot be compiled.

TABLE IV.

Meteorological Return for the Year 1928.

Station—Mbabane.

	Temperature.			***Rainfall.***
	Max.	*Mm.*	*Mean.*	*Inches.*
January	91	53	72	8.35
February	92	48	70	2.34
March	88	50	69	3.73
April	84	43	63	2.85
May	74	38	56	0.86
June	74	32	53	Nil
July	75	33	54	0.25
August	87	36	6].	1.15
September	90	40	65	2.23
October	98	44	71	3.93
November	96	47	71	6.03
December	92	50	71	7.96

TABLE V.

Hospital or Institution :—Government Hospital, Mbabane.

Return of Diseases and Deaths (In-patients) for the Year 1928.

Drsease9.	*Remaining Yearly* ***in Hospital at end of 1927.***		*Total.* ***Deaths.***	*Total*	*Remaining* *in* ***Hospital at end of 1928.***
I.*Epidemic, Endemic and Infectious Diseases.*					
5.Malaria *(a) T*ertian	1	40	1	41	5
16.Dysentery *(a)* Amoebic		1		1	
25.*(b)* Varicella		1		1	
31.Tuberculosis, Pulmonary		1	1	1	
35.Tuberculosis of Bones and Joints	1	2		3	2
36.Tuberculosis of other organs (c) Lymphatic system	1			1	
38.Syphilis *(b)* Secondary	13	65		68	6
39.Soft Chancre		2		2	
40.A. Gonorrhea and its complications		5		5	
B. Gonorrheal Ophthalmia	2			2	
Total carried forward	18	107	2	125	14

TABLE *V.—continued.*

Diseases	*Remaining in Hospital 1927.*	*Yearly Total. Admissions*	*Deaths.*	*Total cases Treated.*	*Remaining in Hospital 1928.*
Brought forward	1.8	107	2	125	14
II. *General Diseases not mentioned above.*					
48.Cancer or other malig nant tumours of the skin		1		1	
50.Tumours non-malignant		3		3	
51.Acute Rheunmatism	1	10		11	
53.Scurvy	1	1		2	
64.Pellagra		1		1	
58.*(b)* Other Anaemias		1		1	
69. Other General Diseases...		4	1	4	
III.A*ffections of the Nervous System and Organs of the Senses.*					
74.Apoplexy *(a)* Haemorr hage...		2	2	2	
77.Other forms of Mental' Alienation		1	1	1	
78.Epilepsy		2		2	
82.B. Neuritis		1		1	
85.Affections. of the Organs of Vision.					
*(a)*Diseases of the Eye		5		5	2
*(e)*Other Affections of the Eye		1		1	
86.Affections of the Ear		1		1	
IV. *Affections of the Circulatory System.*					
92. Thrombosis		2		2	
93. Diseases of the Veins.					
Haemorrhoids		2		2	
Phlebitis		2		2	
V. Affections of the Respiratory System.					
97. Rhinitis	1			1	
98. Bronchitis *(a)*Acute		3		3	
101. Pneumonia *(a)*Lobar		2	1	2	
102. Pleurisy...		1		1	
105. Asthma		2		2	
VI. *Diseases of tile Digestive System.*					
111. A. Ulcer of the Stomach		1		1	
112. Gastritis...		1		1	
114. Diarrhoea and Enteritis.					
Two years and over...		2		2	
Colitis		1		1	
117. Appendicitis		2		2	
127. Other affections of the Digestive System		1		1	
VII. *Diseases of the Genito-urinary System (non-'Venereal).*					
128. Acute Nephritis		1		1	
1.30. B. Schistosorniasis		4		4	
Total carried forward	21	168	7	189	19

TABLE V.'—continued.

Diseases.	Remaining in Hospital at end of 1927.	Yearly Total. Admissions.	Deaths.	Total Cases Treated.	Remaining in Hospital at end of 1928.
Brought forward	21	168	7	189	19
136. Diseases (non-Venereal) of the. Genital Organs of Man		3		3	
Orchitis		3		3	
Hydrocele	1			1	
141. A. Metritis		11		11	
B. Other affections of the Female Genital Organs		1		1	
Displacements of Uterus		1		1	
IX.. Affections of the Skin and Cellular Tissues.					
153. Abscess		2		2	
Oellulitis		7		7	
154. B. Scabies		3		3	
155. Other Diseasesof the Skin	1	3		4	
X.. *Diseases of Bones and Organs of Locomotion (other than Tuberculosis)*					
157. Synovitis		1		1	
1.58. Other Diseases of Bones or Organs of Locomotion		5		5	2
XI. *Malformations.*					
159. Malformations		1		1	
XIV. *Affections produced by External Cause's.*					
176. Snake Bite		2		2	
178. Burns (by Fire)		7	1	7	1
183. Wounds (by Firearms, War excepted).		1		1	
184. Wounds (by cutting or Stabbing instruments)...		11		U	
1.88. Wounds (crushing)		2		2	
201. B. Sprain		2		2	
C. Fracture	4	9		13	
202. Other External Injuries...	4	9		13	
XV. *Ill-defined Diseases.*					
205. A. Ascites:		2		2	
Total	31	254	8	285	23

TABLE VI.

The number of Out-Patients treated was 7,050.

Government Hospital, Hlatikulu.

Admitted (30th October to 31st December), 12. Deaths, Nil.
Out-Patients treated (full year), 3,409.

Government Dispensary, Mankaiana.

Staff: 1 European Hospital Assistant.
Out-Patients treated (18th September to 31st December), 477.
No records available prior to 18th September.

Mission Hospital, Bremersdorp.

Staff. 1 European Doctor.
1 European Secretary.
3 European Trained Nurses.
5 Native Female Probationers.
2 Native Male Probationers.

Admitted, 235. Deaths, 13.
Out-patients treated, 1,900.

Mission Hospital, Mahamba.

Staff. 1 European Doctor.
1 European Trained Nurse.
4 Coloured Probationers.
2 Native Probationers.

Admitted, 207. Deaths, 14.
Out-patients treated, 4,008.

Mission Dispensary, Stegi.

Staff. 1 European Nurse.
Patients treated, 615.

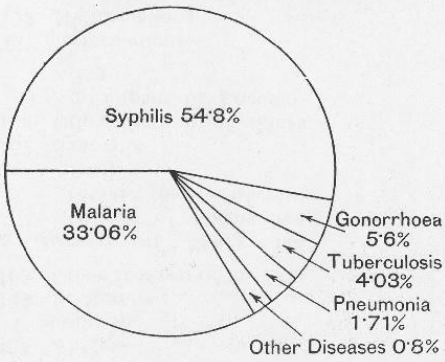
Two diagrams, A and B, representing in graphic form the incidence of infectious and other diseases, and based on the figures of cases treated in hospitals, accompany this Report.

R. JAMISON,
Principal Medical Officer,
Swaziland.

DIAGRAM A.

Infective Diseases.

Total Incidence, 124.



Total Deaths 3.

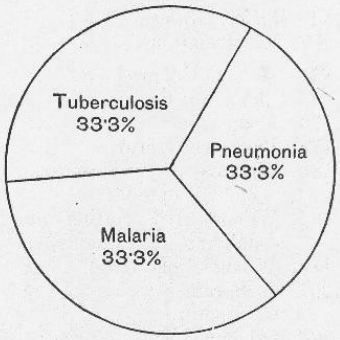
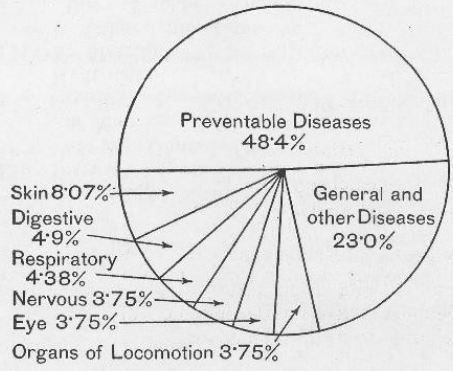


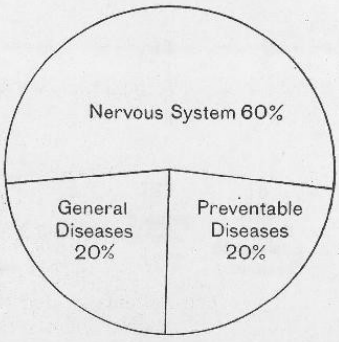
DIAGRAM B.

General, Systematic, and Preventable Diseases.

Total Diseases, 161.



Total Deaths, 5.



Annex 2 Pre-Survey Questionnaire

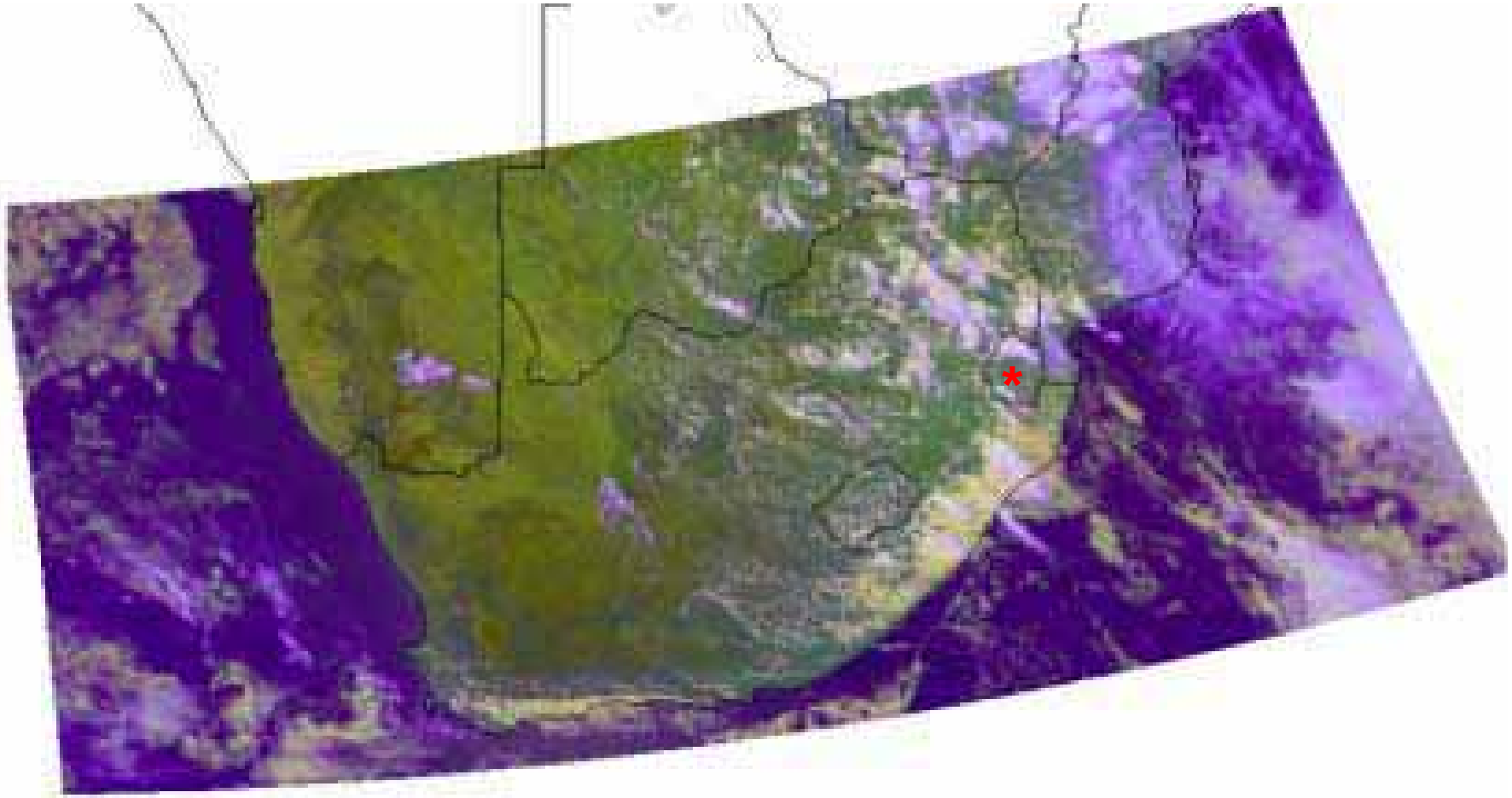
1. Which are the most prevalent animal diseases in Swaziland?
2. How are these diseases treated?
3. Do farmers treat animals themselves?
4. Which veterinary drugs, are commonly used?
5. Are paravets common in Swaziland?
6. Do farmers/veterinarians/shops use or stock trypanocides?
7. Do livestock keepers know symptoms of nagana?
8. Have livestock owners ever reported any strange disease?
9. How efficient is dipping in the country and which acaricides are being used?
10. Are any pour-on insecticides commonly used on cattle?
11. When was the last trypanosomiasis survey undertaken?
12. Are records available of past trypanosomiasis surveys?
13. Are any records of Human Trypanosomiasis cases in Swaziland available? (These may be published records or Ministry of Health Records).
14. When were cases of nagana last reported? Are records available?
15. Which tsetse species have been reported to be present in Swaziland? Are any distributions maps available?
16. Is there trans border cattle grazing in the South Eastern border of South Africa (Kwazulu Natal) /Mozambique?
17. Is there cattle trade /movement to neighboring countries or from neighboring countries into Swaziland? If so, is there any screening of the animals undertaken?
18. Is there inter border movement of wild hosts of trypanosomosis between neighboring countries?

19. In case of tsetse infestation which areas would be the most suspected?

20. What would be the best time for any seasonal surveys to be undertaken?

Annex 3a Distribution of tsetse in Swaziland

Fig. 1: Satellite image showing location of Swaziland *



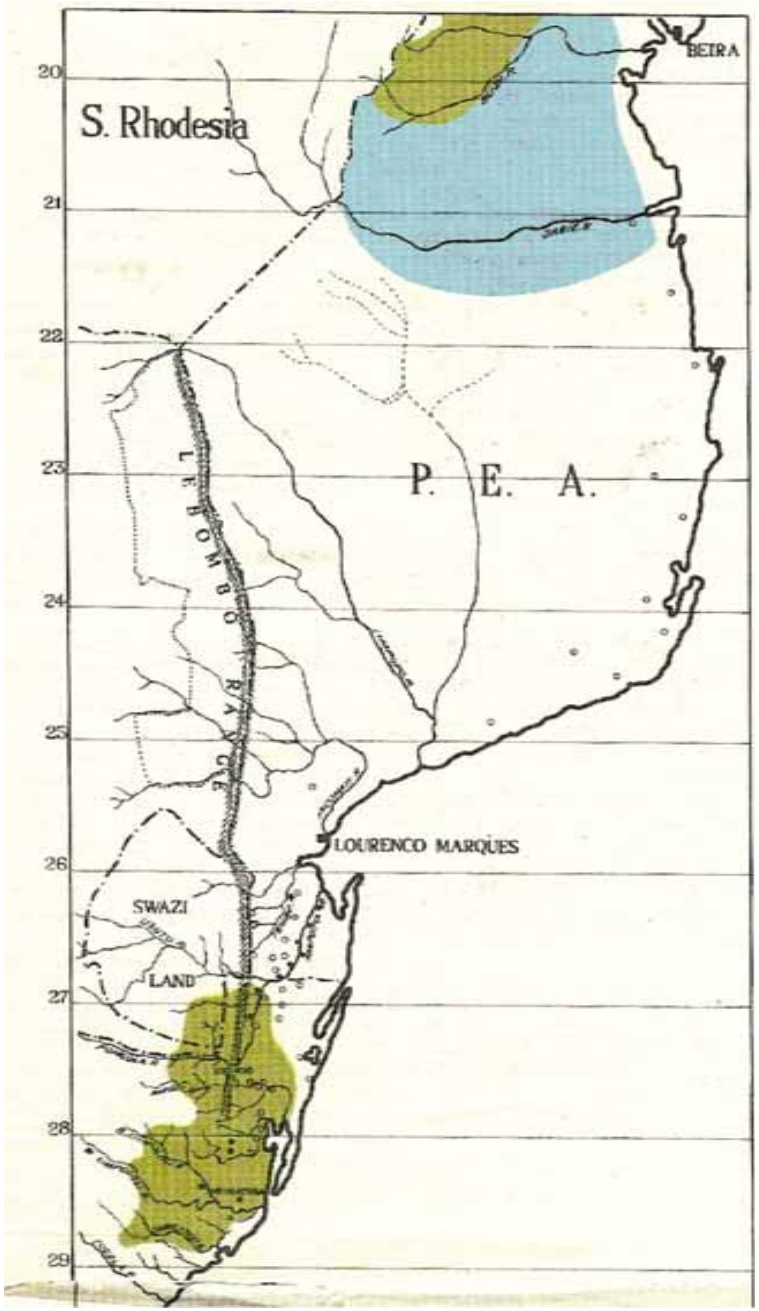


Fig. 2 Distribution of *G. pallidipes* in Zululand in relation to the occurrence of this species in Portuguese East Africa (Fuller 1923 & du Toit 1954)

- *G. morsitans*
- *G. pallidipes*
- *G. brevipalpis*
- *G. austeni*

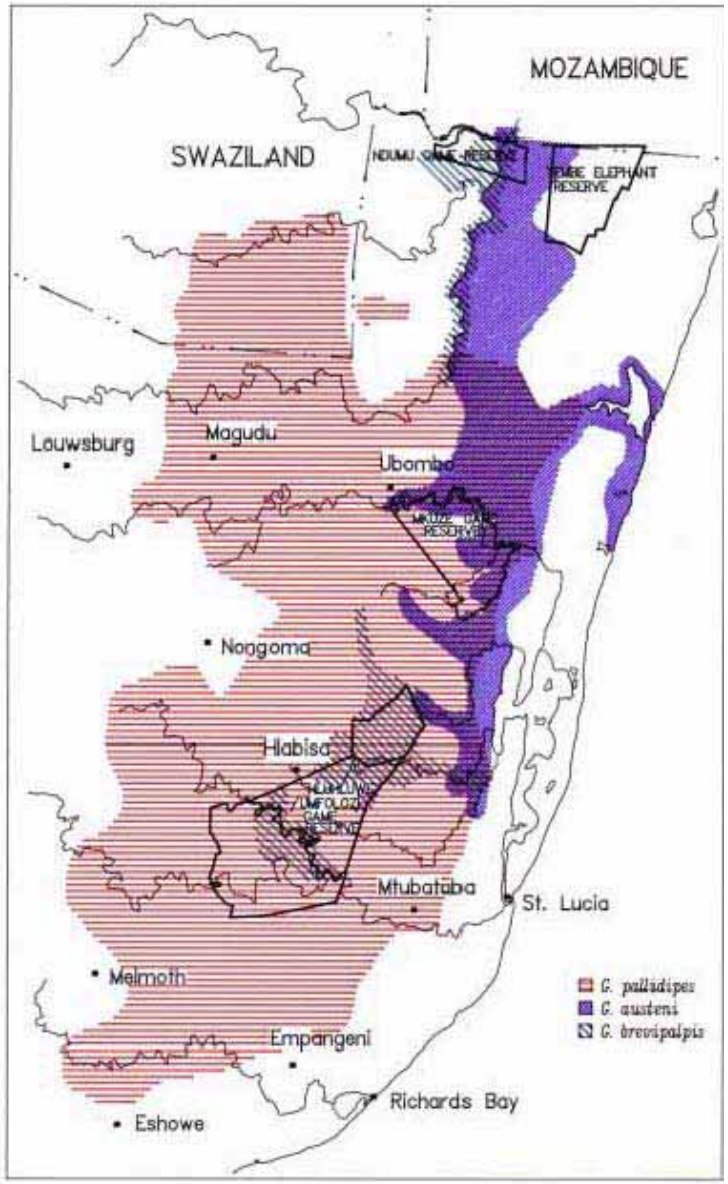


Fig. 3 Historical distribution of tsetse in KwaZulu-Natal (Fuller1923 & du Toit 1954)

Fig. 4 Schematic drawing of historical fly distribution in South Africa and Mozambique

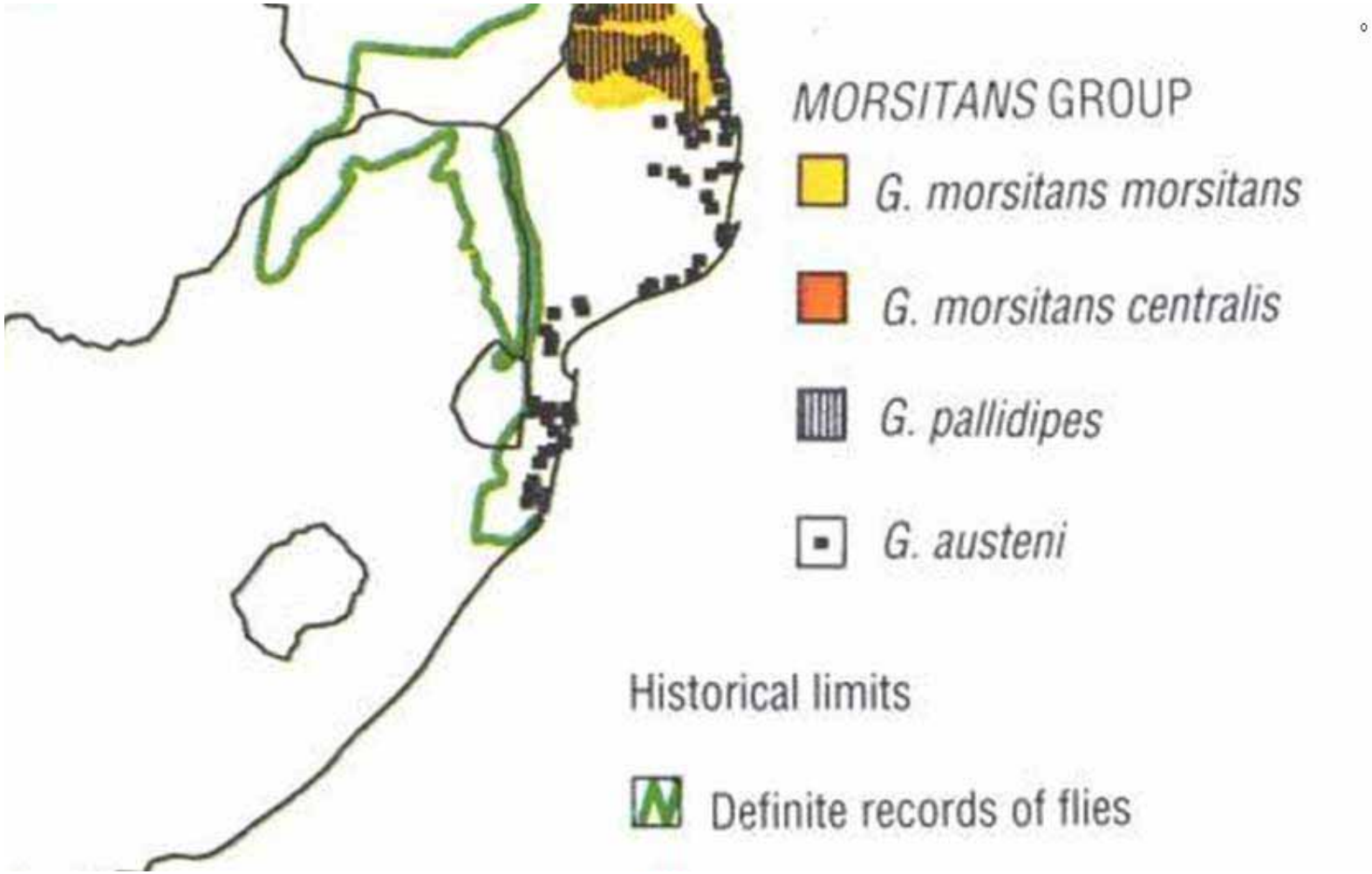


Fig. 5 Historical fly distribution in South Africa and Mozambique

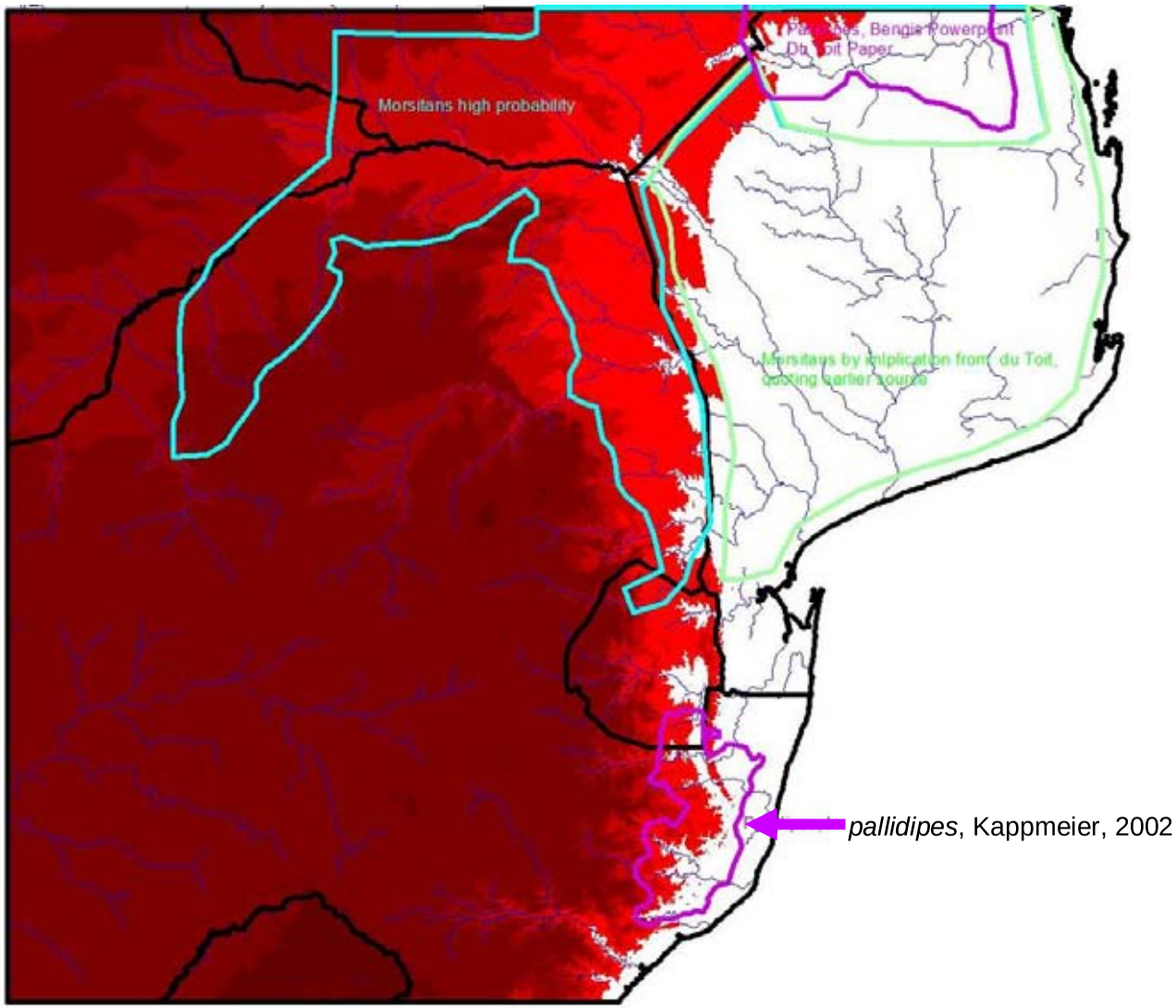
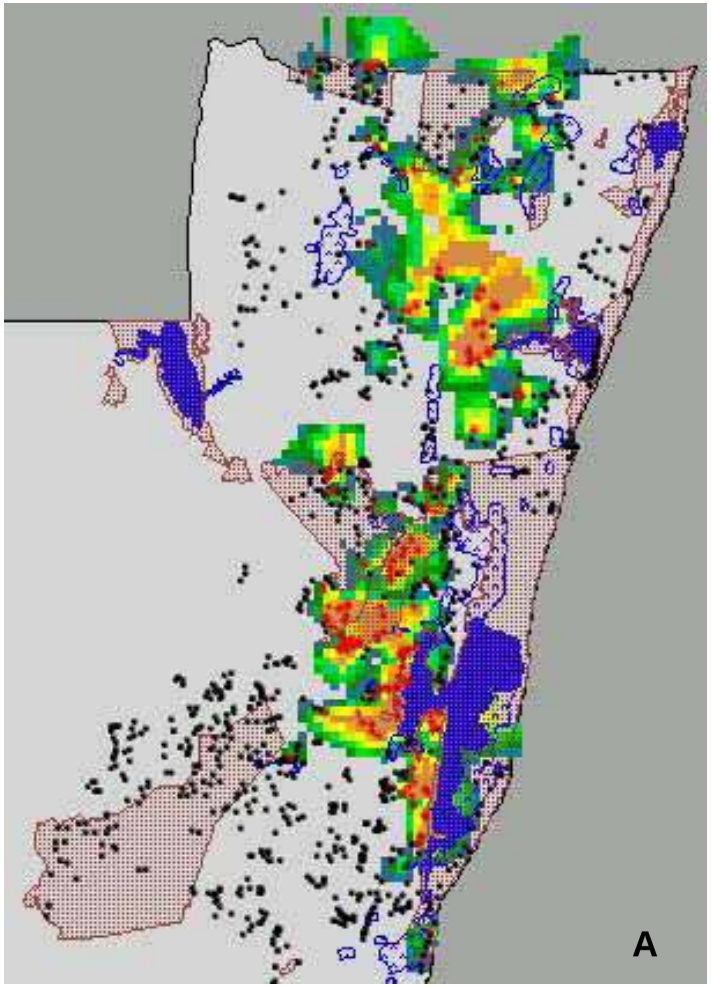
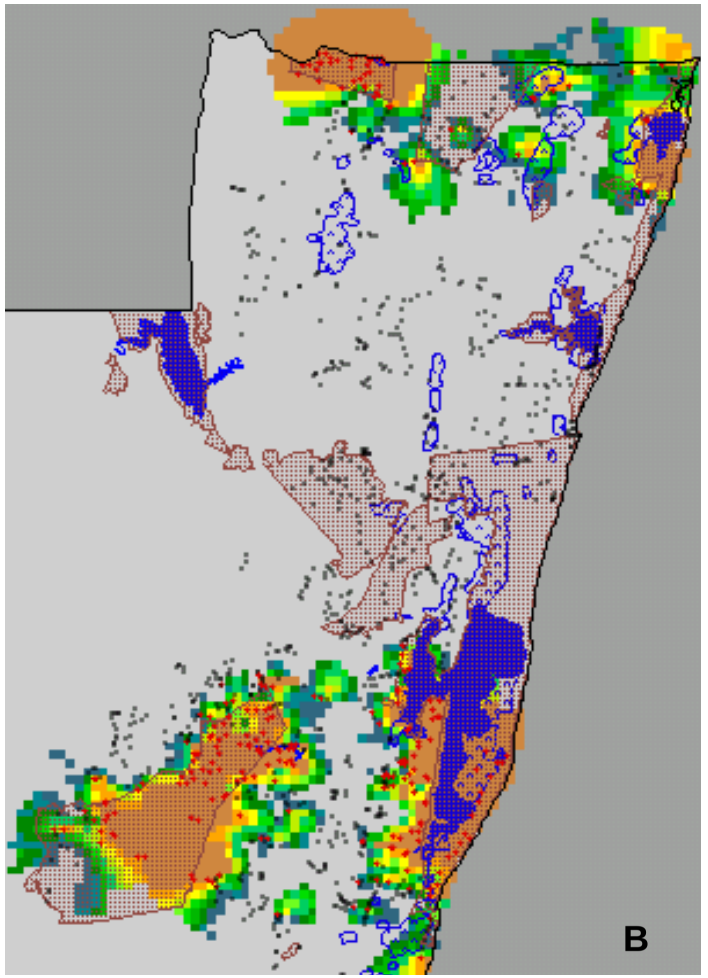


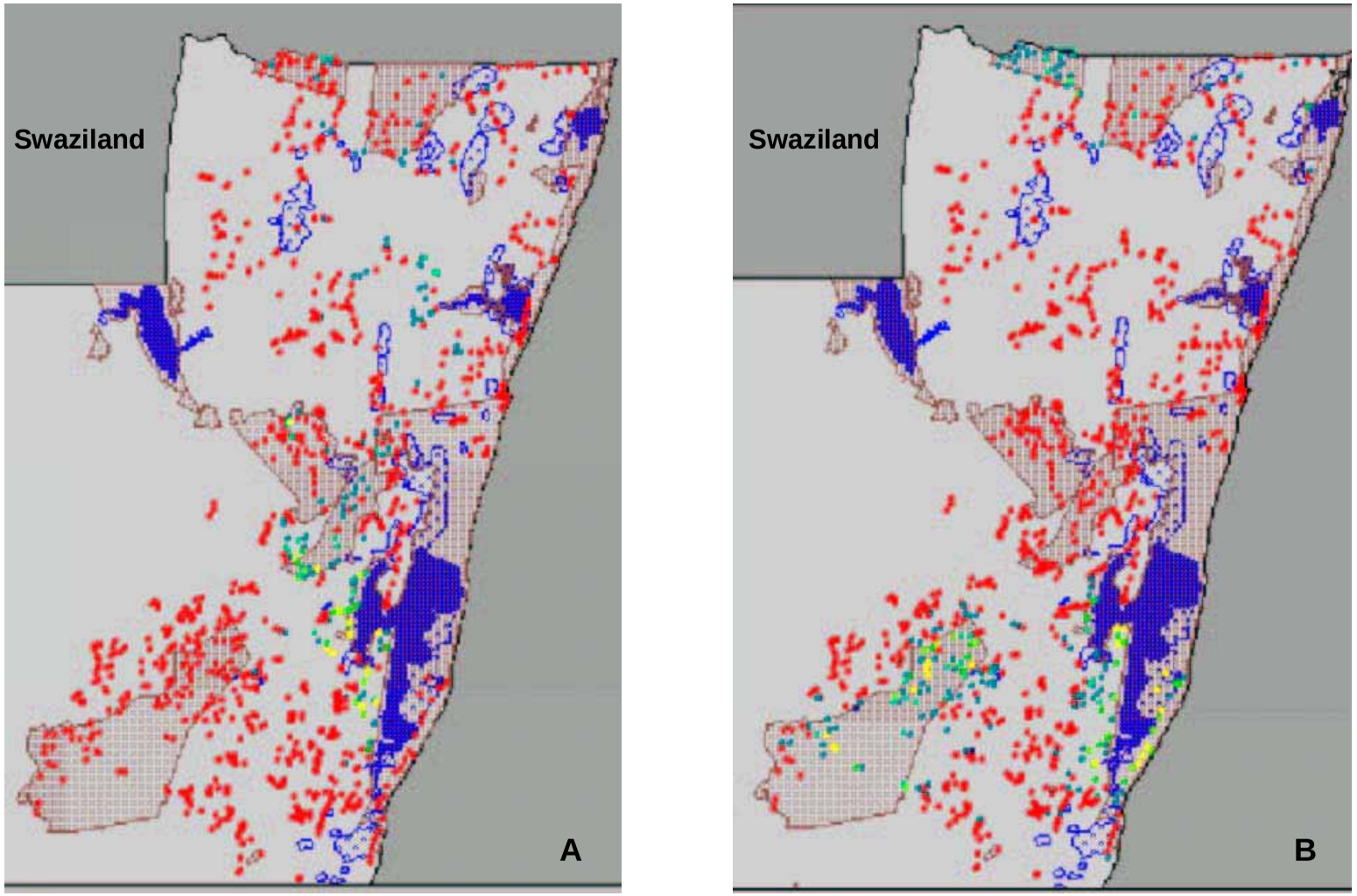
Fig. 6: Presence- absence prediction model indicating the probability of presence of *G. austeni* (A) and G. *brevipalpis* (B) in KwaZulu-Natal and Southern Mozambique (Map adapted from AVIA – GIS 2002)





Blue – Green – Yellow – Orange – Brown indicates low to high probability of occurrence

Fig. 7: Distribution of *G. austeni* (A) and *G. brevipalpis* (B) in KwaZulu-Natal (observed abundance data)
(Map adapted from AVIA – GIS 2002)



Red dots: fly absent; Blue – Green – Yellow dots : Low to high density

Shaded polygons – conservation areas; Blue areas – lakes and dams; Blue contours – major marshes

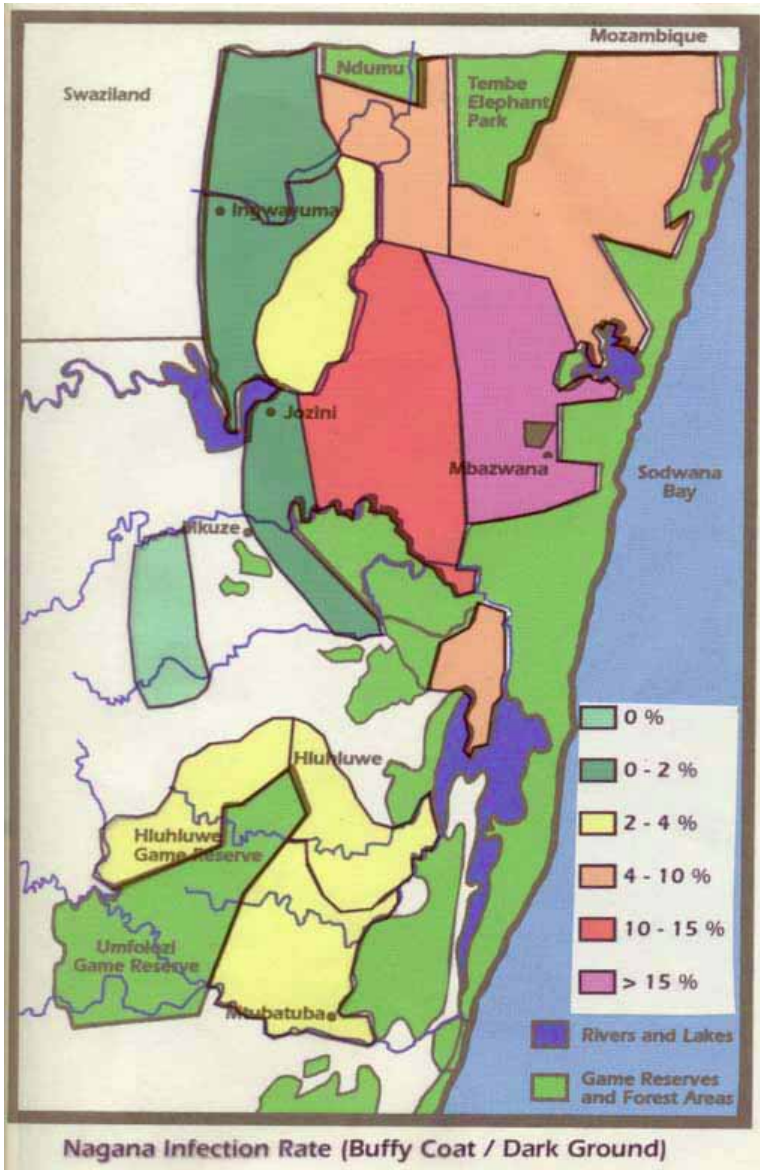
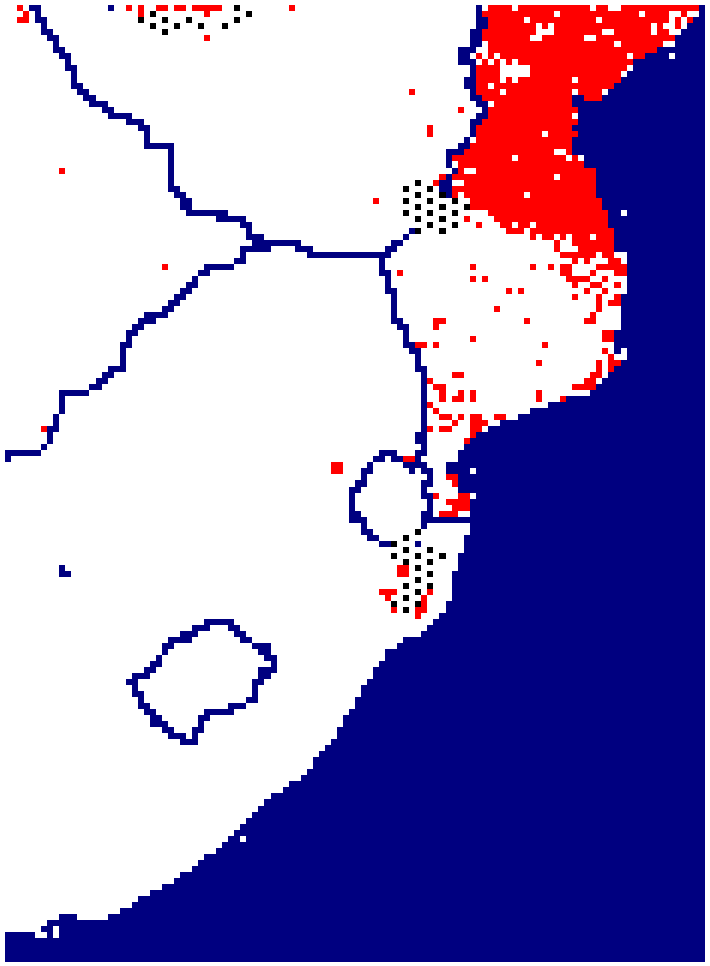
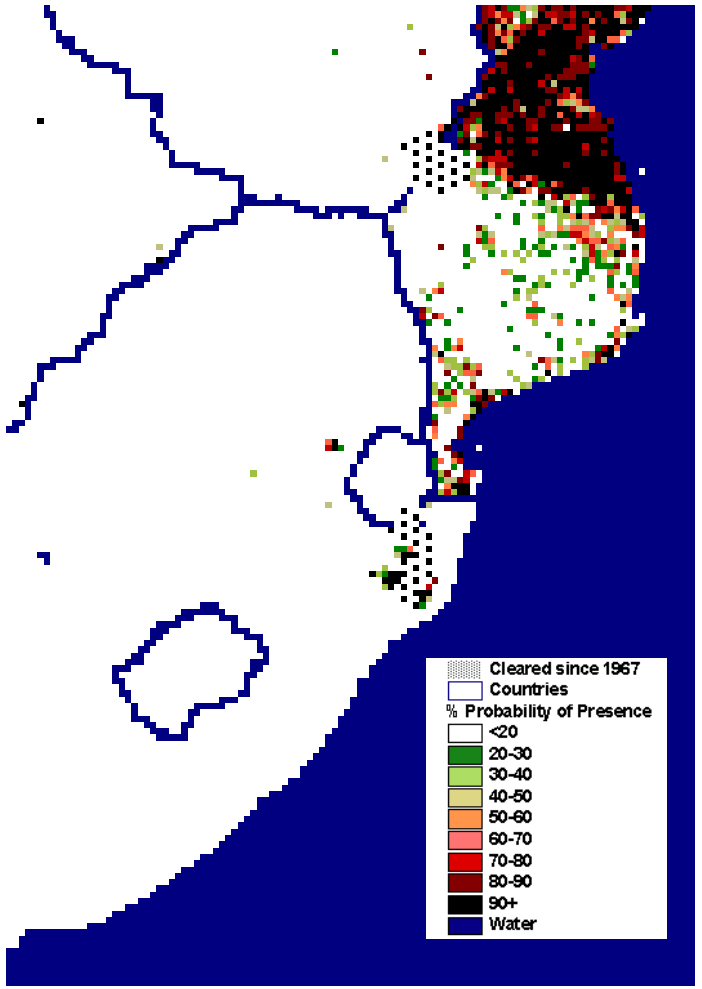


Fig. 8 Prevalence of trypanosomosis in KwaZulu-Natal (According to kappemeier et al. 1998

Fig. 9: Predictive maps of Morsitans group of flies presence or absence in South Africa, Swaziland and Mozambique (http://ergodd.zoo.ox.ac.uk

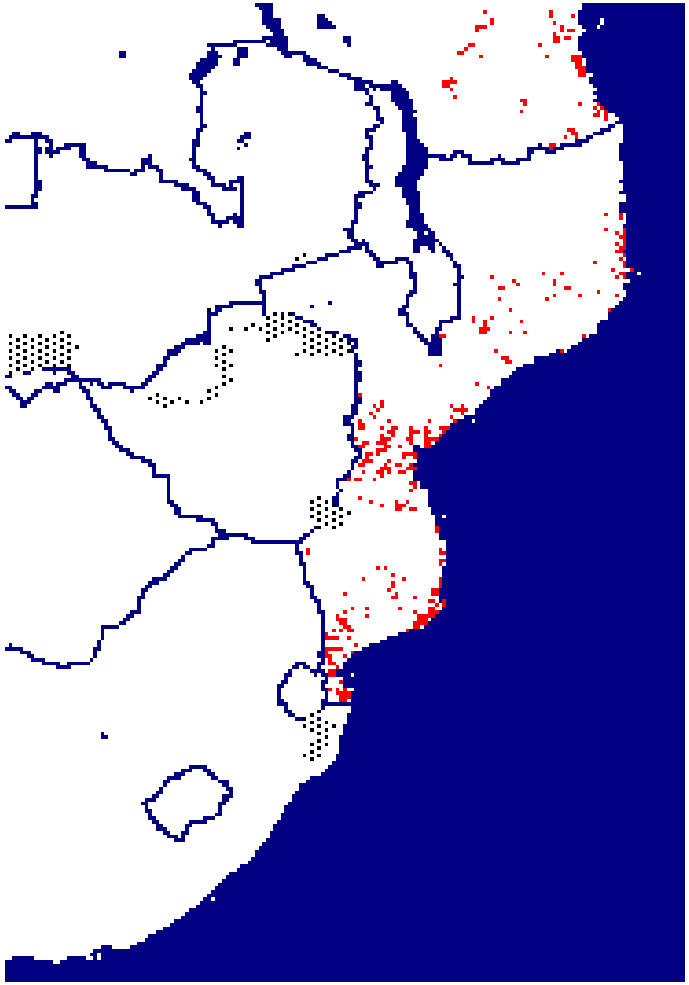


Presence: *Morsitans Group*

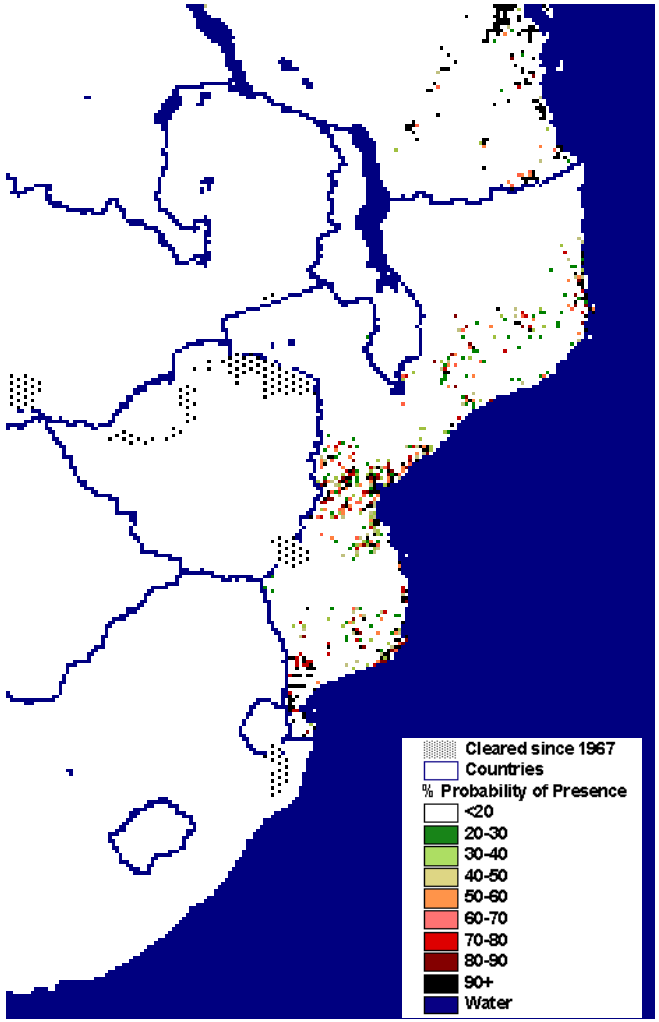


Probability of Presence: *Morsitans Group*

Fig. 10: Predictive maps of *G. austeni* presence or absence in South Africa, Swaziland and Mozambique (http://ergodd.zoo.ox.ac.uk)

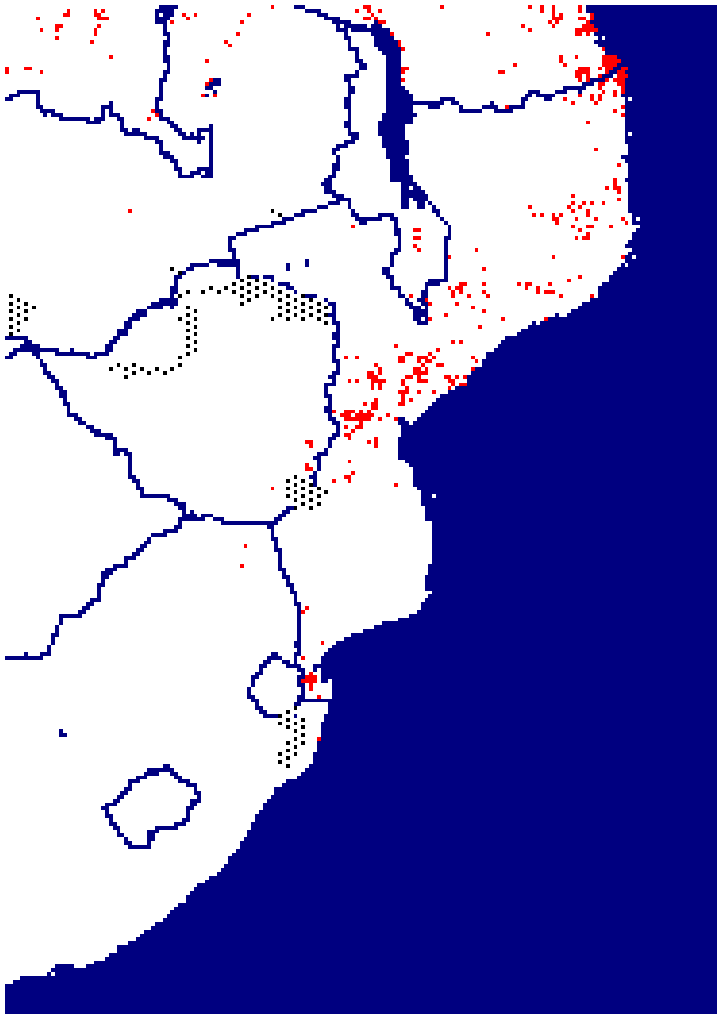


Presence: *G. austeni*

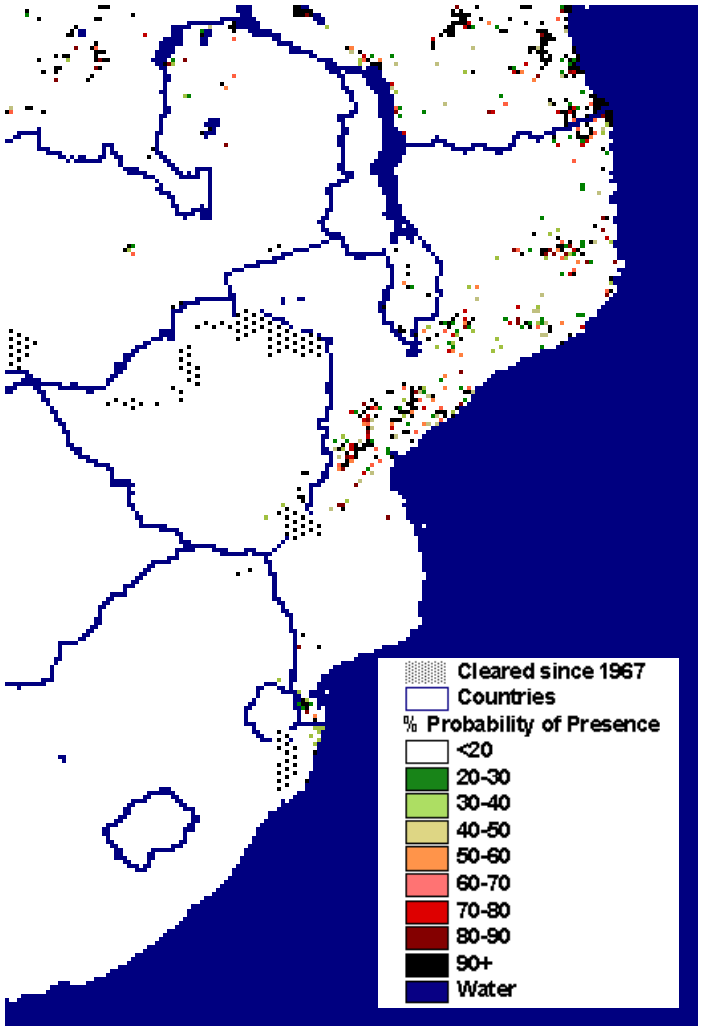


Probability of Presence: *G. austeni*

Fig.11: Predictive maps of *G. brevipalpis* presence or absence in South Africa, Swaziland and Mozambique (http://ergodd.zoo.ox.ac.uk)

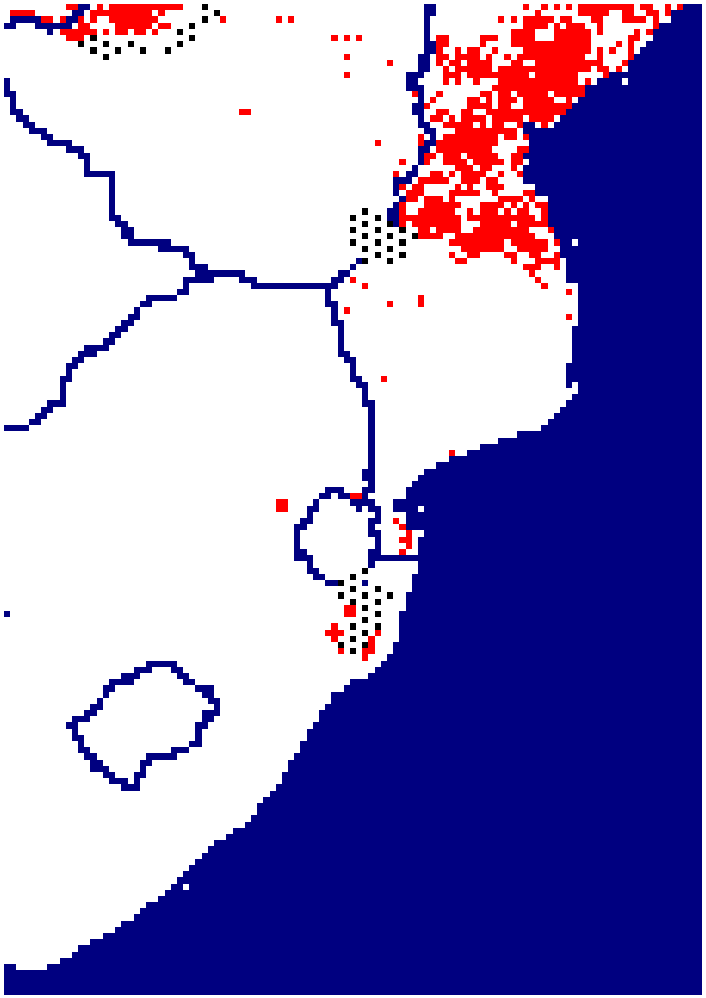


Presence: *G. brevipalpis*

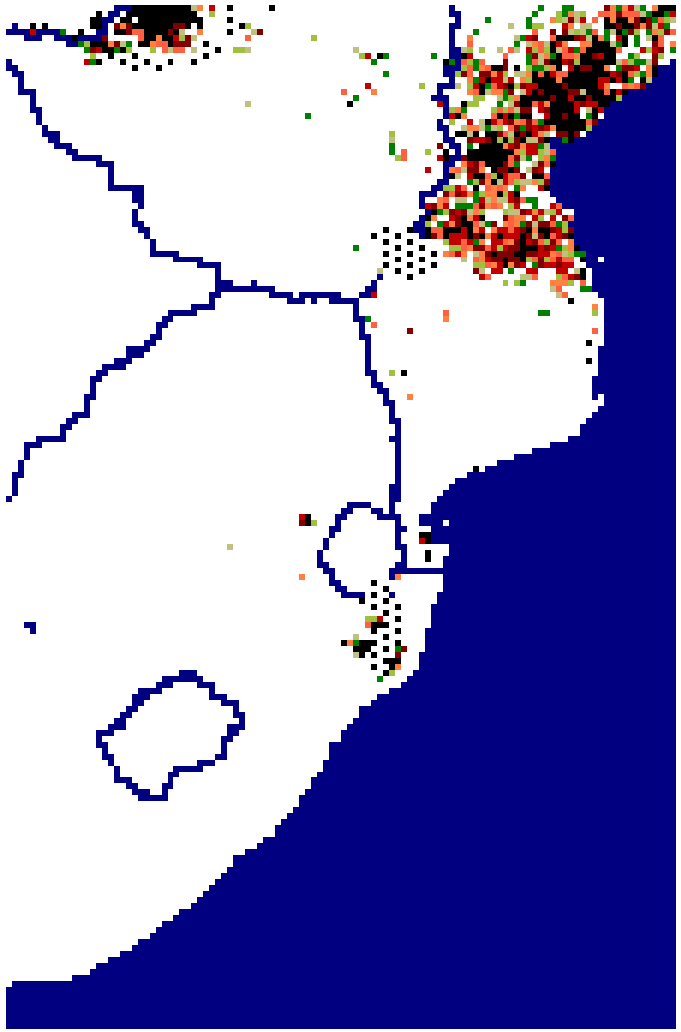


Probability of Presence: *G. brevipalpis*

Fig. 12: Predictive maps of *G. pallidipes* presence or absence in South Africa, Swaziland and Mozambique (http://ergodd.zoo.ox.ac.uk)



Presence: *G. pallidipes*



Probability of Presence: *G. pallidipes*

Annex 3b Sources of Additional Information

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Annex 4 Map of area Defined for Survey

Annex 5 Coordinates of Centroids for Grids Surveyed

Alphanumeric Code	Numeric Code	Grid Code	Latitude (Y)	Longitude (X)	For Sampling
A	00	A00	-25.76292	31.17927	NO
A	01	A01	-25.86292	31.17927	NO
A	02	A02	-25.96292	31.17927	NO
A	03	A03	-26.06292	31.17927	YES
B	00	B00	-25.76292	31.27927	YES
B	01	B01	-25.86292	31.27927	YES
B	02	B02	-25.96292	31.27927	NO
B	03	B03	-26.06292	31.27927	YES
C	00	C00	-25.76292	31.37927	YES
C	01	C01	-25.86292	31.37927	YES
C	02	C02	-25.96292	31.37927	NO
C	03	C03	-26.06292	31.37927	YES
D	02	D02	-25.96292	31.47927	YES
D	00	D00	-25.76292	31.47927	YES
D	01	D01	-25.86292	31.47927	YES
D	03	D03	-26.06292	31.47927	YES
E	02	E02	-25.96292	31.57927	YES
E	00	E00	-25.76292	31.57927	YES
E	01	E01	-25.86292	31.57927	YES
E	03	E03	-26.06292	31.57927	YES
F	05	F05	-26.26292	31.67927	NO
F	06	F06	-26.36292	31.67927	NO
F	07	F07	-26.46292	31.67927	NO
F	08	F08	-26.56292	31.67927	YES
F	09	F09	-26.66292	31.67927	NO
F	10	F10	-26.76292	31.67927	NO
F	11	F11	-26.86292	31.67927	NO
F	12	F12	-26.96292	31.67927	NO
F	13	F13	-27.06292	31.67927	NO
F	14	F14	-27.16292	31.67927	NO
F	15	F15	-27.26292	31.67927	YES
F	04	F04	-26.16292	31.67927	NO
F	02	F02	-25.96292	31.67927	NO
F	03	F03	-26.06292	31.67927	YES
F	01	F01	-25.86292	31.67927	NO
G	04	G04	-26.16292	31.77927	NO
G	05	G05	-26.26292	31.77927	YES
G	06	G06	-26.36292	31.77927	YES
G	07	G07	-26.46292	31.77927	NO
G	08	G08	-26.56292	31.77927	YES
G	09	G09	-26.66292	31.77927	YES
G	10	G10	-26.76292	31.77927	YES
G	11	G11	-26.86292	31.77927	YES
G	12	G12	-26.96292	31.77927	NO
G	13	G13	-27.06292	31.77927	YES

G	14	G14	-27.16292	31.77927	YES
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G	02	G02	-25.96292	31.77927	NO
G	03	G03	-26.06292	31.77927	YES
H	02	H02	-25.96292	31.87927	NO
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H	04	H04	-26.16292	31.87927	YES
H	05	H05	-26.26292	31.87927	YES
H	06	H06	-26.36292	31.87927	YES
H	07	H07	-26.46292	31.87927	YES
H	08	H08	-26.56292	31.87927	NO
H	09	H09	-26.66292	31.87927	YES
H	10	H10	-26.76292	31.87927	YES
H	11	H11	-26.86292	31.87927	YES
H	12	H12	-26.96292	31.87927	YES
H	13	H13	-27.06292	31.87927	NO
H	14	H14	-27.16292	31.87927	YES
H	15	H15	-27.26292	31.87927	YES
I	02	I02	-25.96292	31.97927	YES
I	03	I03	-26.06292	31.97927	YES
I	04	I04	-26.16292	31.97927	YES
I	05	I05	-26.26292	31.97927	YES
I	06	I06	-26.36292	31.97927	YES
I	07	I07	-26.46292	31.97927	NO
I	08	I08	-26.56292	31.97927	YES
I	09	I09	-26.66292	31.97927	NO
I	10	I10	-26.76292	31.97927	NO
I	11	I11	-26.86292	31.97927	YES
I	12	I12	-26.96292	31.97927	YES
I	13	I13	-27.06292	31.97927	YES
I	14	I14	-27.16292	31.97927	YES
I	15	I15	-27.26292	31.97927	YES
J	02	J02	-25.96292	32.07927	YES
J	03	J03	-26.06292	32.07927	YES
J	04	J04	-26.16292	32.07927	YES
J	05	J05	-26.26292	32.07927	YES
J	06	J06	-26.36292	32.07927	YES
J	07	J07	-26.46292	32.07927	YES
J	08	JO8	-26.56292	32.07927	YES
J	09	J09	-26.66292	32.07927	YES
J	10	J10	-26.76292	32.07927	YES
J	11	J11	-26.86292	32.07927	NO

Annex 6 Data Recording Sheet

Page:* _____** ***Country Swaziland

Grid ID: _____ **UTM ZONE: _____** **Date: _____**

Team No: _____ **Data officer**: _____ **Sheet No: _____**

Trap No	Latitude (y) coordinate	Longitude (x) coordinate	Altitude	Veg. Type	Tsetse				Biting Flies		Others	Remarks
					Species	Males	Females	Total	Family	No.		

Annex 7 Tsetse Survey Teams

Vusie m' Khumalo
Animal Health Inspector
Ministry of Agriculture & Cooperatives
Manzini, Swaziland

TEAM: 1

Samson Manana
Animal Health Inspector
Ministry of Agriculture & Cooperatives
Siteki, Swaziland

Paulos M. Khoza
Health Assistant, Malaria Health Unit
Ministry of Health (MOH)
Manzini, Swaziland

John Andoke Akiri
Tsetse Entomologist
ICIPE Nairobi, Kenya

Peter Nthale Muasa
Tsetse Entomologist
ICIPE Nairobi, Kenya

TEAM: 2

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Health Assistant, Malaria Health Unit
Ministry of Health (MOH)
Manzini, Swaziland

Augustine Motsa
Veterinary Assistant
Ministry of Agriculture & Cooperatives
Manzini, Swaziland

Joel M. Matse
Health Assistant, Malaria Health Unit
Ministry of Health (MOH)
Manzini, Swaziland

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Dr. Rajinder K. Saini
Principal Investigator
ICIPE Nairobi, Kenya

Caroline Muthoni Muya
Data Manager
ICIPE Nairobi, Kenya

David Camp
Transport Assistant
World Health Organization (WHO)
Mbabane, Swaziland

Group photo of the survey team

Contacts of Survey Team Members

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David Camp	Transport Assistant WHO	WHO Cell: +268 6237447 P.O.Box 903, Mbabane, Swaziland
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Paulos M. Khoza	Ministry of Health (MOH) Health Assistant Unit Malaria Health	Cell: +268 6079372 P.O.Box 53, Manzini, Swaziland
TEAM 2		
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Musa Mndzebele	Health Assistant Malaria Health Unit MOH	Cell: +268 6352601 P.O.Box 53, Manzini, Swaziland

How can you and the farming community help?

Cooperation of the farmers is very important for successful surveys. Moreover, the information will benefit the farming community directly as there animals are at risk.

In order to help please:

- Allow the technicians to deploy the traps in your farms or allow passage through them
- Protect the traps and keep children away from them. STOP anyone from STEALING them
- Also protect the bottles with the attractive substances
- Avoid touching the chemical substances, as they may be toxic and flammable

Avoid fires in areas where traps are deployed

- Be assured that the traps are not harmful to the environment, people or their animals
- Assist the survey teams in their work

Prepared by:
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International Centre of Insect Physiology and Ecology (ICIPE)
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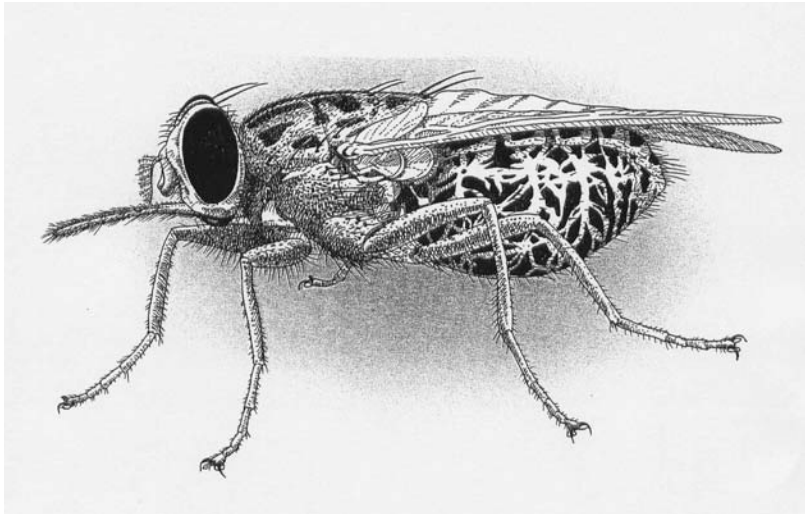
Is Africa's Deadly Fly (Tsetse) present in Swaziland?



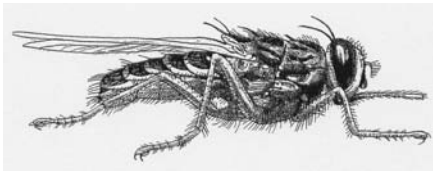
A survey to be undertaken by:

Ministry of Health and Social Welfare, Swaziland
Ministry of Agriculture and Cooperatives, Swaziland
ICIPE, Nairobi, Kenya

With the support of:
WHO

What is a Tsetse Fly?

It is a deadly blood feeding, disease-carrying fly, almost the size of a housefly. It defers from other biting flies by the fact that at rest its wings are crossed over its abdomen like a scissor with its proboscis pointed out. Both male and female flies feed on blood. The mouthparts are tailored for biting and sucking. Flies are found in 32 African countries. The word tsetse comes from Matabélé or Zulu people.



Why Worry About Tsetse Flies?

Flies are known to transmit a deadly parasite called a trypanosome from wild animals (buffalos, bush pigs, warthogs etc) to human beings and domestic animals (cattle). This parasite does not cause disease in wild animals but is fatal to both humans (human sleeping sickness) and cattle (nagana). Nagana means 'weakness' or 'debilitating' in Zulu. Every year 3 million cattle die in Africa due to Nagana. Cattle that contract the disease loose weight have a lower calving rates, growth retardation and difficulty walking. Infected females can abort and those who manage to give birth produce less milk. Incase of humans, the infected person may get a high fever or have a very bad headache; very often a swelling appears at the bottom of the neck; sometimes the person's face may become very puffy. After sometime, the person becomes very sick, often sleeps during the day, eats very little and becomes thin or behaves like a mad person. If not treated, the sick person will die.

Infected cow

Human being infected with trypanosomes

Trypanosomes in blood

Is Swaziland Infested with Tsetse flies?

The answer is **NO** or **YES**. **We do not know until a proper survey is undertaken**. Neighbouring Mozambique and Kwazulu Natal in South Africa are however, infested and cattle moving from these countries could be infected. In Swaziland the disease both in cattle and in humans has not been reported for a long time.

Tsetse Survey

Ministries of Agriculture and Health of the Government of Swaziland in cooperation with International Centre of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya and with the support of WHO and Vestergaard Frandsen , Denmark are planning to conduct a survey in Swaziland this year immediately after the rains and in the dry season. The survey will be conducted in the Lubombo and Shiselweni regions bordering Mozambique and Kwazulu-Natal (i.e. in the Eastern Lowveld, Western Lowveld and Lebombo Range).

How will we catch tsetse flies?

Scientists have developed blue and black cloth traps to capture tsetse. Blue and black colours attract flies, while the mosquito netting leads the flies to catching bottles. Using attractive odours e.g. chemical substances that mimic the odour of cattle, the efficiency of the traps can be enhanced. In Swaziland the 'H' trap developed in South Africa and supplied by Vestergaard Frandsen will be used to catch the flies.

H - Trap

Annex 8b siSwati Brochure for Community Sensitization

Wena nesive sonkhe ninga sita kanjani kulolucwaningo?

Ngaphandle kwekubanjiswa sive loluewaningo lungete lwaphumelela. Kantsi ke futsi imiphumela yaloluewaningo itakuba nemitselela lemihle esiveni ngekuvikela bantfu nemfuyo kelemphungane letfwala sifo sekulala..
Sicela sive sisibambise nganaku lokulandzelako:

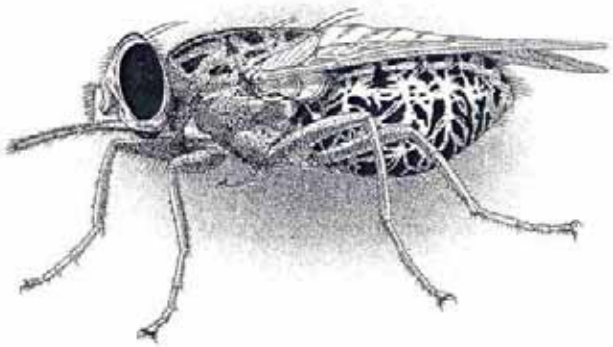
- Nivumele bacwaningi babeke bosochaka endzaweni yakini.
- Nivikele bosochaka bangebiwa futsi kubete lobatsintsako nobe adlale ngabo.
- Kungakhishwa emabhodlela lalapha ekhatsi kulabosochaka.
- Butsi lobufakwe kulamabhodlela bungatsintfwa ngobe bungahle bube yingoti.
- Kungashiswa etindzaweni lapho kubekwe khona labosochaka.
- Labosochaka bete bungoti emvelweni

Ngaloko ke Sive sicelwa kutsi sibabambise bacwaningi kulomkhankaso.

Prepared by:
Dr. Rajinder K. Saini
International Centre of Insect Physiology and Ecology (ICIPE)
P.O.Box 30772 – 00100
Nairobi, Kenya

Ihunyushwe litiko LeteKulima neLubambiswano (MOAC)

Ngabe imphungane (tsetse- fly) lehlupha I-Africa ngekutfwala sifo sekulala (sleeping sickness) ikhona yini kuleli laka ngwane ?



Luhlolo lolutawentiwa ngulaba:

Litiko LeteMphilo neNhlalakahle (MOHSW)
Litiko LeteKulima NeLubanjiswano (MOAC)
Yinhlangano ya ICIPE, Nairobi, Kenya

Luluhlolo lusekelwe:
Yinhlangano yakaMhlaba yeteMphilo (WHO)

Iyini lemphungane letfwala sifo sekulala?

Imphungane letfwala sifo sekulala iyalingana futsi iphose ifane nemphungane letfolakala emakhaya. Umehluko kustsi nayihleti timphiko tayo tiyaphambana nje ngesikelo, futsi umlomo wayo mundze. Lomlomo lomudze wekuluma nekumunya ingati. Loluhlobo lwemphungane lutfolakala kumave langemashumi lamatsatfu nakubili (32) ase- Africa. BakaZulu kanye nebakaNdebela ngibo labacala kubita lemphungane ngekutsi yi TSETSE.

Yini sitihluphe kangaka ngalemphungane ?

Lemphungane lena itfwala ligciwane (trypanosome) lesifo sekulala (sleeping sickness) ilitsatse etilwaneni tasendle (Ingulube yesiganga, budzayikatana, naletinye) itselele bantfu nemfuyo. Umuntfu losanaleligciwane lesifo sekulala uphatfwa ngemakhata, tinhlungu nayihloko. Intsamo yakhe kanye nebuso kuyavuvuka kube mabokoboko. Lophatsekile uyakuvilaphela kudla alibale kulala nje nasemini, ondze, lomunye asangane ingcondvo. Uma angakatfoli kwelashwa lokufanele, ngekuhamba kwesikhatsi lophatsekile ungcina aphangalele.

Emfuyweni leligciwane libanga sifo lokutsiwa ngu 'Nagana' lokusho kuphelelwa ngemandla nekwehla emtimbeni. Nagana ubulala tigidzi letintsatfu tetinkomo ngemnyaka e Africa yonkhe. Inkhomo lenalesifo iyondza, ingakhuli kahle, ihambe kancane, nelubisi lwayo lube luncane. Ingaphunta nekuphunta

Inkhomo lena Nagana

Umuntfu lonesifo sekulala (Sleeping Sickness)

Emagciwane esifo sekulala (trypanosomes)

Ikhona yini Lempungane letfwala sifo sekulala lapha kangwane?

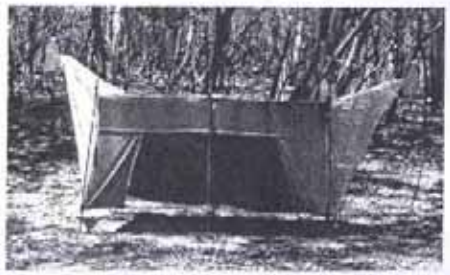
Imphendvulo itsi **YEBO** noma **CHA**. Kwanyalo asati, singaze sati ngekwenta luhlolo ngeku tsiya lemphungane, nangabe siyibamba kusho kutsi sinayo kulelive. Bomakhelwane betfu LakaSoshangane ne LakaZulu banayo lemphungane. Kuleli lakaNgwane lesifo sekulala lesitfwalwa ngulemphungane yiminyaka sangcina kubonakala.

Luhlolo Lwemphungane letfwala sifo sekulala (Tsetse Survey)

Litiko LeteKulima neLubanjiswano nelitiko leteMphilo neNhlalakahle babambisene nenhlangano ye ICIPE (International Centre of Insect Physiology and Ecology) lese Nairobi, kulela lase Kenya, batakwenta luhlolo lwekwetsiya lempungane letfwala sifo sekulala, emahlandzeni akulelive. Loluhlolo lutakuba mphaca mbili, ehlobo nasebusika kuwona lomnyaka. Loluhlolo lusekelwe ngetimali yinhlangano yaKamhlaba ye Temphilo (WHO) kanye nenhlangano lekutsiwa yi Vestergaard Frandsen , lemise kulela le Denmark.

Itakwetsiywa njani ke lempungane ?

Bacwaningi bakha bosochaka betimphungane ngemphahla lesibhakabhaka kanye nalokumnyama. Lemibala lena kwatfolakala kutsi iyayikhanga lempungane. Itsi imphungane ingangena kulo sochaka bese iyabajwa ayisakhoni kuphuma. Kulosochaka kubekwa umchamo wenkhomo ngoba liphunga lawo nalo liyayikhanga lemphungane.



Annex 8c Community Sensitization

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1, 2, 3 & 5: *Sensitizing the community members using the brochures*

4: *Children assisting in trap deployment*

6, 7 & 8: *Demonstrating deployment of a trap and explaining how it works*

Annex 9 Schedule of Survey Work

Sunday 6th April 2008	Arrival of Team leader and Data Manager from ICIPE
Monday 7th	Meeting with WHO and the Ministries involved to sort out logistics, timetable of activities, training schedule, formation of survey teams and purchase of expendables at Malaria Unit in Manzini
Tuesday 8th	Meeting with WHO – WR, AO and AO assistant Arrival of rest ICIPE Technical Staff
Wednesday 9th	Full day Training of National Staff at Siteki Hotel
Thursday 10th & Friday 11th	Purchasing of Supplies and Expendables
Sat 12th April to Wed 7th May	Tsetse Survey Work.
Friday 9th May	Tsetse Survey Briefing with all stakeholders and future plans at Ministry of Agriculture and Cooperative Conference Room
Saturday 10th May 2008	Departure

Annex 10 Typical day before and after field work

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1 & 2: Map reading and identification of grids prior to departure to the field

3: Loading of vehicles

4 – 7: Daily debriefing and preparation of workplan for following day

8: Data input

Annex 11 GIS MAPS:

Map 1 Grid suitability and traps deployed

Map 2 Overview map of traps with tsetse flies

Map 3 Traps with tsetse flies

Map 4 Traps with other biting flies (Stomoxys & Tabanids)

Annex 12 Habitats Surveyed

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1 & 2: Site where Mbuluzi River starts

3 & 4: Mbuluzi River flowing towards Mozambique in grids I 04 & J04

5 & 6: Mlawula River flowing towards Mbuluzi River in grids I 04 & I 05

7: Entrance to Mlawula Nature Reserve

8: H-Trap inside Mlawula Nature Reserve

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9 & 10: Habitat where G. austeni were caught in grid I 05

11: Lebombo Mountains along Mozambique border

12: Mozambique border close to where tsetse were found

13 & 14: Roads leading towards Mozambique border

15 & 16: Dry River beds crossed on foot for trap deployment

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17 & 18: Cultivated areas and human settlement North of Piggs Peak area (not suitable tsetse habitats)

19 & 20: Man-made forest in Piggs Peak area (not suitable tsetse habitats)

21 & 22: Sugarcane plantations in Simunye and Lavumisa areas respectively

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23: Cows grazing in Mlawula Nature Reserve

24: Cows in Nisela Park

25: Cattle crush in Bar Circle Ranch in grid H09 where traps were deployed

26: Cows in grid G9

27 – 30: Wild animals encountered during the survey

29 & 30: Poaching of animals along Mozambique border

Annex 13 Trap deployment (steps involved)


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1 & 2: Map reading and identification of grids to be surveyed

3, 4 & 5: Loading vehicles for survey work

6 & 7: Preparing odour dispensers

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8, 9 & 10: Carrying trap and associated equipment to the identified habitat for trap deployment

11: Clearing the vegetation in a trap site

12 – 15: Trap deployment

16: Putting car-grease around support poles to protect captured flies from predators

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16 – 18: Marking, numbering and geo-referencing each trap position

19: Marking trap site with a ribbon for ease of identification during sampling days

20 & 21: H-trap fully deployed

22: One of the side cones of the trap showing the fly collection bottle

23 & 24: Soldiers of the Royal Swazi Defense Force providing protection and assisting in trap deployment

Annex 14 Traps vandalized by cows

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1 – 8: Traps destroyed by cows especially in grids J03 and J08 along Mozambique border

Annex 15 Unaggregated Data Sheets

Grid ID	J10			UTM Zone		36			Date of trap deployment 16th April 2008				
Team	2			Data Officer P. Muasa									
No.													
								SAMPLING OF DAY 1			17 Apr. 2008		
Trap	Latitude(y)	Longitude(x)	Alt*	Veg.		Tsetse			Biting Flies				* Altitude
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		The West side of the Grid is cultivated land	
												and Homesteads	
J10 T1	26.74180	32.04795	542	Thicket		0	0	0	3	0	0		
J10 T2	26.73939	32.05428	495	Thicket		0	0	0	2	0	1	The trap was deployed in the valley towards	
J10 T3	26.78251	32.11926	337	Forest		0	0	0	1	0	0		
J10 T4	26.78689	32.10359	389	Forest		0	0	0	1	0	0		
J10 T5	26.77794	32.08514	329	Forest		0	0	0	0	0	0		
J10 T6	26.77062	32.08065	358	Forest		0	0	0	2	0	0		
J10 T7	26.77296	32.06938	737	Forest		0	0	0	0	0	0		
								SAMPLING OF DAY 2			18th Apr. 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.	Species	♂	♀	Total	Family		Others	Remarks	
No.	Coordinates	Coordinates	(m)	Type					Stomoxys	Tabanids			
J10 T1	26.74180	32.04795	542	Thicket		0	0	0	1	0	0		
J10 T2	26.73939	32.05428	495	Thicket		0	0	0	0	0	0		
J10 T3	26.78251	32.11926	337	Forest		0	0	0	0	0	0		
J10 T4	26.78689	32.10359	389	Forest		0	0	0	0	0	0		
J10 T5	26.77794	32.08514	329	Forest		0	0	0	0	0	0		
J10 T6	26.77062	32.08065	358	Forest		0	0	0	1	0	0		
J10 T7	26.77296	32.06938	737	Forest		0	0	0	0	0	0		
								SAMPLING OF DAY 3			19th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.	Species	♂	♀	Total	Family		Others	Remarks	

No.	Coordinates	Coordinates	(m)	Type					Stomoxys	Tabanids			
J10 T1	26.74180	32.04795	542	Thicket		0	0	0	3	0	0		
J10 T2	26.73939	32.05428	495	Thicket		0	0	0	1	0	0		
J10 T3	26.78251	32.11926	337	Forest		0	0	0	0	0	0		
J10 T4	26.78689	32.10359	389	Forest		0	0	0	2	0	0		
J10 T5	26.77794	32.08514	329	Forest		0	0	0	10	0	0		
J10 T6	26.77062	32.08065	358	Forest		0	0	0	2	0	0		
J10 T7	26.77296	32.06938	737	Forest		0	0	0	0	0	0		
Grid ID.	E1			UTM Zone	36			Date	1st May 2008				
Team	2			Data Officer P. Muasa									
No													
							SAMPLING OF DAY 1			2nd May 2008			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		The grid is has schools, villages and small scale farming.	
E1 T1	25.89688	31.56162	469	Thicket		0	0	0	0	0	0		
E1 T2	25.89300	31.55887	496	Lantena B		0	0	0	0	0	0		
E1 T3	25.87747	31.58515	330	Thicket		0	0	0	0	0	0		
E1 T4	25.88275	31.59114	328	Thicket		0	0	0	0	0	0	Trap near swampy area	
E1 T5	25.88403	31.64534	361	Thicket		0	0	0	3	0	2		
E1 T6	25.88225	31.63598	385	Woodland		0	0	0	2	0	0		
E1 T7	52.88576	31.61929	442	Thicket		0	0	0	5	0	0		
							SAMPLING OF DAY 2				3rd May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
E1 T1	25.89688	31.56162	469	Thicket		0	0	0	14	0	0		
E1 T2	25.89300	31.55887	496	Lantena B		0	0	0	18	2	0		
E1 T3	25.87747	31.58515	330	Thicket		0	0	0	0	0	0		
E1 T4	25.88275	31.59114	328	Thicket		0	0	0	0	0	0		
E1 T5	25.88403	31.64534	361	Thicket		0	0	0	0	0	0		
E1 T6	25.88225	31.63598	385	Woodland		0	0	0	0	0	0		
E1 T7	52.88576	31.61929	442	Thicket		0	0	0	0	0	0		

						SAMPLING OF DAY 3					4th May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
E1 T1	25.89688	31.56162	469	Thicket		0	0	0	0	0	0		
E1 T2	25.89300	31.55887	496	Lantena B		0	0	0	8	2	0		
E1 T3	25.87747	31.58515	330	Thicket		0	0	0	2	0	0		
E1 T4	25.88275	31.59114	328	Thicket		0	0	0	1	1	0		
E1 T5	25.88403	31.64534	361	Thicket		0	0	0	2	0	0		
E1 T6	25.88225	31.63598	385	Woodland		0	0	0	7	0	0		
E1 T7	52.88576	31.61929	442	Thicket		0	0	0	4	0	0		
Grid ID.	E2			UTM Zone	36			Date	1st May 2008				
Team	2			Data officer P. Muasa									
No.													
							SAMPLING OF DAY 1				2nd May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Grid falls in villages, schools and between big sugarcane	
												farms and bisected by river Nkomati	
E2 T1	25.98945	31.61842	382	Thicket		0	0	0	1	0	0		
E2 T2	25.98762	31.61153	378	Thicket		0	0	0	6	0	0		
E2 T3	25.98160	31.61010	346	Thicket		0	0	0	3	0	1		
E2 T4	25.97751	31.60569	331	Woodland		0	0	0	4	0	0		
E2 T5	25.96830	31.59906	299	Wd/Th		0	0	0	8	0	0		
E2 T6	25.96089	31.59657	290	Thicket		0	0	0	4	2	0		
E2 T7	25.96460	31.54443	371	Thicket		0	0	0	10	1	1		
E2 T8	25.96110	31.55240	350	Thicket								Vandalised	
						SAMPLING OF DAY 2					3rd May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
E2 T1	25.98945	31.61842	382	Thicket		0	0	0	1	0	0		
E2 T2	25.98762	31.61153	378	Thicket		0	0	0	3	0	0		
E2 T3	25.98160	31.61010	346	Thicket		0	0	0	0	0	0		
E2 T4	25.97751	31.60569	331	Woodland		0	0	0	4	0	0		
E2 T5	25.96830	31.59906	299	Wd/Th		0	0	0	1	0	0		
E2 T6	25.96089	31.59657	290	Thicket		0	0	0	2	0	0		

E2 T7	25.96460	31.54443	371	Thicket		0	0	0	2	0	0		
E2 T8	25.96110	31.55240	350	Thicket		0	0	0					
						SAMPLING OF DAY 3				4th May 2008			
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
E2 T1	25.98945	31.61842	382	Thicket		0	0	0	0	0	0		
E2 T2	25.98762	31.61153	378	Thicket		0	0	0	3	0	0		
E2 T3	25.98160	31.61010	346	Thicket		0	0	0	3	1	0		
E2 T4	25.97751	31.60569	331	Woodland		0	0	0	0	0	2		
E2 T5	25.96830	31.59906	299	Wd/Th		0	0	0				Whole trap stolen	
E2 T6	25.96089	31.59657	290	Thicket		0	0	0	7	0	0		
E2 T7	25.96460	31.54443	371	Thicket		0	0	0	0	0	0		
E2 T8	25.96110	31.55240	350	Thicket		0	0						
Grid ID.	G10			UTM Zone	36			Date	15th April 2008				
Team	2			Data Officer P. Muasa									
No.													
							SAMPLING OF DAY 1				16th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G10 T1	26.74355	31.80676	165	Thicket		0	0	0	10	0	0		
G10 T2	26.74322	31.81389	170	Thicket		0	0	0	10	0	0		
	Only two traps were deployed in this Grid, as a major part of it was mainly small scale farming and												
	sugar plantation												
								SAMPLING OF DAY 2			17th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G10 T1	26.74355	31.80676	165	Thicket		0	0	0	30	0	0		
G10 T2	26.74322	31.81389	170	Thicket		0	0	0	8	0	0		

								SAMPLING OF DAY 3			18th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G10 T1	26.74355	31.80676	165	Thicket		0	0	0	8	0	2		
G10 T2	26.74322	31.81389	170	Thicket		0	0	0	6	0	0		
Grid ID.	G11			UTM Zone	36			Date	14th April 2008				
Team	2			Data Officer P. Muasa									
No.													
							SAMPLING OF DAY 1				15th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G11 T1	26.89059	31.74073	220	Thicket		0	0	0	7	0	0	Trap towards St. Philips Clinic	
G11 T2	26.88037	31.74466	242	Thicket		0	0	0	6	0	0	Trap towards St. Philips Clinic	
G11 T3	26.87202	31.75303	224	Thicket		0	0	0	2	1	0	Trap towards St. Philips Clinic	
G11 T4	26.86213	31.76215	195	Thicket		0	0	0	0	2	8		
G11 T5	26.85985	31.76509	186	Thicket		0	0	0	6	0	0	From the centroid moving towards North	
G11 T6	26.85778	31.77209	180	Thicket		0	0	0	2	0	1		
G11 T7	26.82111	31.78054	229	Thicket		0	0	0					
								SAMPLING OF DAY 2			16th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G11 T1	26.89059	31.74073	220	Thicket		0	0	0	14	0	3		
G11 T2	26.88037	31.74466	242	Thicket		0	0	0	0	0	0		
G11 T3	26.87202	31.75303	224	Thicket		0	0	0	1	0	0		
G11 T4	26.86213	31.76215	195	Thicket		0	0	0	16	0	0		
G11 T5	26.85985	31.76509	186	Thicket		0	0	0	2	0	1		
G11 T6	26.85778	31.77209	180	Thicket		0	0	0	4	0	0		
G11 T7	26.82111	31.78054	229	Thicket		0	0	0					
								SAMPLING OF DAY 3			17th April 2008		

						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G11 T1	26.89059	31.74073	220	Thicket		0	0	0	8	0	0		
G11 T2	26.88037	31.74466	242	Thicket		0	0	0	5	0	0		
G11 T3	26.87202	31.75303	224	Thicket		0	0	0	2	0	0		
G11 T4	26.86213	31.76215	195	Thicket		0	0	0	6	0	0		
G11 T5	26.85985	31.76509	186	Thicket		0	0	0	15	0	0		
G11 T6	26.85778	31.77209	180	Thicket		0	0	0	4	0	0		
G11 T7	26.82111	31.78054	229	Thicket		0	0	0	2	0	0		
Grid ID.	H6			UTM Zone	36			Date	23rd April 2008				
Team	2			Data officer P. muasa									
No.													
							SAMPLING OF DAY 1			24th April 2008			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Centroid is in the King's Farm	
H6 T1	26.38289	31.88437	341	Thicket		0	0	0	1	0	0		
H6 T2	26.37513	31.88469	339	Thicket		0	0	0	0	0	0		
H6 T3	26.36991	31.88773	331	Thicket		0	0	0	0	0	0		
H6 T4	26.36413	31.88277	309	Thicket		0	0	0	3	0	0	Trap near big dam	
H6 T5	26.37342	31.88263	327	Thicket		0	0	0	1	0	0		
								SAMPLING OF DAY 2			25th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H6 T1	26.38289	31.88437	341	Thicket		0	0	0	0	0	0		
H6 T2	26.37513	31.88469	339	Thicket		0	0	0	0	0	0		
H6 T3	26.36991	31.88773	331	Thicket		0	0	0	0	0	0		
H6 T4	26.36413	31.88277	309	Thicket		0	0	0	0	0	0		
H6 T5	26.37342	31.88263	327	Thicket		0	0	0	2	0	0		
								SAMPLING OF DAY 3			26th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	

									Stomoxys	Tabanids			
H6 T1	26.38289	31.88437	341	Thicket		0	0	0	0	0	0		
H6 T2	26.37513	31.88469	339	Thicket		0	0	0	0	0	0		
H6 T3	26.36991	31.88773	331	Thicket		0	0	0	13	0	0		
H6 T4	26.36413	31.88277	309	Thicket		0	0	0	2	0	0		
H6 T5	26.37342	31.88263	327	Thicket		0	0	0	8	0	0		
Grid ID.	H7			UTM Zone	36			Date	21st April 2008				
Team	2			Data officer P. muasa									
No.													
							SAMPLING OF DAY 1				22nd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
												Grid is within villages and small scale	
												farming, small shops, schools etc	
H7 T1	26.45075	31.89164	354	Thicket		0	0	0	0	0	0		
H7 T2	26.45035	31.88731	343	Thicket		0	0	0	1	0	0		
H7 T3	26.45561	31.89488	350	Thicket		0	0	0	0	0	0		
H7 T4	26.45752	31.88590	345	Woodland		0	0	0	0	0	0		
H7 T5	26.46000	31.87561	325	Thicket		0	0	0	0	0	0		
H7 T6	26.48372	31.90397	337	Thicket		0	0	0	0	0	0	Trap near river bed	
H7 T7	26.49114	31.91111	326	Thicket		0	0	0	0	0	0	Trap deployed along escarpment with	
H7 T8	26.48333	31.87945	316	Thicket		0	0	0	5	0	0	Trap deployed near big house to the North	
H7 T9	26.48277	31.85503	270	Thicket		0	0	0	0	0	0	Trap deployed near big dam	
								SAMPLING OF DAY 2			23rd April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H7 T1	26.45075	31.89164	354	Thicket		0	0	0	0	0	0		
H7 T2	26.45035	31.88731	343	Thicket		0	0	0	1	0	0		
H7 T3	26.45561	31.89488	350	Thicket		0	0	0	2	0	0		
H7 T4	26.45752	31.88590	345	Woodland		0	0	0	1	0	0		
H7 T5	26.46000	31.87561	325	Thicket		0	0	0	0	0	0		
H7 T6	26.48372	31.90397	337	Thicket		0	0	0	0	0	0		
H7 T7	26.49114	31.91111	326	Thicket		0	0	0	0	0	0		
H7 T8	26.48333	31.87945	316	Thicket		0	0	0	0	0	0		
H7 T9	26.48277	31.85503	270	Thicket		0	0	0	9	0	0		

								SAMPLING OF DAY 3			24th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H7 T1	26.45075	31.89164	354	Thicket		0	0	0	0	0	0		
H7 T2	26.45035	31.88731	343	Thicket		0	0	0	0	0	0		
H7 T3	26.45561	31.89488	350	Thicket		0	0	0	2	0	0		
H7 T4	26.45752	31.88590	345	Woodland		0	0	0	0	0	0		
H7 T5	26.46000	31.87561	325	Thicket		0	0	0	0	0	0		
H7 T6	26.48372	31.90397	337	Thicket		0	0	0	0	0	0		
H7 T7	26.49114	31.91111	326	Thicket		0	0	0	5	0	1		
H7 T8	26.48333	31.87945	316	Thicket		0	0	0	0	0	0		
H7 T9	26.48277	31.85503	270	Thicket		0	0	0	0	0	1		
Grid ID.	H9			UTM Zone	36			Date	17 and 18th April 2008				
Team	2			GRID INSIDE BAR CIRCLE RANCH - OWNED BY MR. TIM PARCEL									
No.				Data officer P. muasa									
							SAMPLING OF DAY 1				19th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanides			
H9 T1	26.66465	31.87768	274	Thicket		0	0	0	3	0	0		
H9 T2	26.66752	31.87808	262	Thicket		0	0	0	12	0	0		
H9 T3	26.66830	31.87511	245	Thicket		0	0	0	5	0	0		
H9 T4	26.66444	31.87564	265	Thicket		0	0	0	4	0	0		
H9 T5	26.66082	31.85157	225	Thicket		0	0	0	3	0	0		
H9 T6	26.65858	31.84936	227	Thicket		0	0	0	8	1	0		
H9 T7	26.66462	31.87162	265	Thicket		0	0	0	1	0	0	Trap near the cattle crush	
H9 T8	26.66051	31.87440	270	Thicket		0	0	0	3	0	0		
H9 T9	26.65335	31.88097	289	Thicket		0	0	0	17	0	0		
H9 T10	26.65061	31.88939	278	Thicket		0	0	0	10	0	0		
H9 T11	26.65138	31.89882	247	Thicket		0	0	0	4	0	0		
H9 T12	26.65446	31.90875	230	Thicket		0	0	0	30	0	0		
H9 T13	26.65805	31.91502	209	Thicket		0	0	0	124	1	0		
H9 T14	26.67851	31.88853	251	Thicket		0	0	0	32	0	0		
H9 T15	26.67969	31.89958	202	Woodland		0	0	0	68	1	0		
H9 T16	26.68101	31.90928	193	Woodland		0	0	0	213	0	0	Trap near water point	
								SAMPLING OF DAY 2			20th April2008		

						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H9 T1	26.66465	31.87768	274	Thicket		0	0	0	2	0	0		
H9 T2	26.66752	31.87808	262	Thicket		0	0	0	4	0	0		
H9 T3	26.66830	31.87511	245	Thicket		0	0	0	2	0	0		
H9 T4	26.66444	31.87564	265	Thicket		0	0	0	2	0	0		
H9 T5	26.66082	31.85157	225	Thicket		0	0	0	3	0	0		
H9 T6	26.65858	31.84936	227	Thicket		0	0	0	3	0	0		
H9 T7	26.66462	31.87162	265	Thicket		0	0	0	6	0	0		
H9 T8	26.66051	31.87440	270	Thicket		0	0	0	7	0	0		
H9 T9	26.65335	31.88097	289	Thicket		0	0	0	9	1	0		
H9 T10	26.65061	31.88939	278	Thicket		0	0	0	10	0	0		
H9 T11	26.65138	31.89882	247	Thicket		0	0	0	8	0	0		
H9 T12	26.65446	31.90875	230	Thicket		0	0	0	20	0	0		
H9 T13	26.65805	31.91502	209	Thicket		0	0	0	127	0	0		
H9 T14	26.67851	31.88853	251	Thicket		0	0	0	8	0	0		
H9 T15	26.67969	31.89958	202	Woodland		0	0	0	86	6	0		
H9 T16	26.68101	31.90928	193	Woodland		0	0	0	39	1	0		
								SAMPLING OF DAY 3			21st April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H9 T1	26.66465	31.87768	274	Thicket		0	0	0	2	0	0		
H9 T2	26.66752	31.87808	262	Thicket		0	0	0	3	0	0		
H9 T3	26.66830	31.87511	245	Thicket		0	0	0	3	0	0		
H9 T4	26.66444	31.87564	265	Thicket		0	0	0	0	0	0		
H9 T5	26.66082	31.85157	225	Thicket		0	0	0	11	0	0		
H9 T6	26.65858	31.84936	227	Thicket		0	0	0	4	0	0		
H9 T7	26.66462	31.87162	265	Thicket		0	0	0	7	0	0		
H9 T8	26.66051	31.87440	270	Thicket		0	0	0	3	0	0		
H9 T9	26.65335	31.88097	289	Thicket		0	0	0	1	1	0		
H9 T10	26.65061	31.88939	278	Thicket		0	0	0	0	0	0		
H9 T11	26.65138	31.89882	247	Thicket		0	0	0	18	0	0		
H9 T12	26.65446	31.90875	230	Thicket		0	0	0	7	0	0		
H9 T13	26.65805	31.91502	209	Thicket		0	0	0	62	0	0		
H9 T14	26.67851	31.88853	251	Thicket		0	0	0	7	0	0		
H9 T15	26.67969	31.89958	202	Woodland		0	0	0	16	1	6		
H9 T16	26.68101	31.90928	193	Woodland		0	0	0	10	0	3		
Grid ID.	H10			UTM Zone	36			Date	15th April 2008				

Team	2			Data officer P. muasa								
No.												
						SAMPLING OF DAY 1					16th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H10 T1	26.80028	31.85204	196	Gr/ Wood		0	0	0	16	0	0	
H10 T2	26.78299	31.85889	248	Thicket		0	0	0	0	0	0	Trap destroyed by cattle
H10 T3	26.78580	31.86060	232	Thicket		0	0	0	8	0	0	
H10 T4	26.79425	31.86689	243	Thicket		0	0	0	3	0	0	
H10 T5	26.79269	31.87244	203	Grassland		0	0	0	8	0	0	Trap set on dried river bed
H10 T6	26.78969	31.87563	206	Thicket		0	0	0	1	0	0	
H10 T7	26.79026	31.88562	214	Thicket		0	0	0	11	1	0	
H10 T8	26.79909	31.88738	205	Grassland		0	0	0	14	0	0	
H10 T9	26.77652	31.86861	253	Thicket		0	0	0	12	0	0	
	The Grid is inside Crookes Farm											
								SAMPLING OF DAY 2			17th April 2008	
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H10 T1	26.80028	31.85204	196	Gr/ Wood		0	0	0	8	0	0	
H10 T2	26.78299	31.85889	248	Thicket		0	0	0	0	0	0	
H10 T3	26.78580	31.86060	232	Thicket		0	0	0	7	0	0	
H10 T4	26.79425	31.86689	243	Thicket		0	0	0	4	0	0	
H10 T5	26.79269	31.87244	203	Grassland		0	0	0	7	0	0	
H10 T6	26.78969	31.87563	206	Thicket		0	0	0	0	0	0	
H10 T7	26.79026	31.88562	214	Thicket		0	0	0	11	0	0	
H10 T8	26.79909	31.88738	205	Grassland		0	0	0	18	0	0	
H10 T9	26.77652	31.86861	253	Thicket		0	0	0	10	0	0	The trap was slightly destroyed and replaced
								SAMPLING OF DAY 3			18th April 2008	
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		

H10 T1	26.80028	31.85204	196	Gr/ Wood		0	0	0	8	0	0		
H10 T2	26.78299	31.85889	248	Thicket		0	0	0	0	0	0		
H10 T3	26.78580	31.86060	232	Thicket		0	0	0	10	0	0		
H10 T4	26.79425	31.86689	243	Thicket		0	0	0	0	0	0		
H10 T5	26.79269	31.87244	203	Grassland		0	0	0	9	0	0		
H10 T6	26.78969	31.87563	206	Thicket		0	0	0	0	0	0		
H10 T7	26.79026	31.88562	214	Thicket		0	0	0	3	0	0		
H10 T8	26.79909	31.88738	205	Grassland		0	0	0	13	0	0		
H10 T9	26.77652	31.86861	253	Thicket		0	0	0	24	0	0		
Grid ID.	H11			UTM Zone	36			Date	14th April 2008				
Team	2			Data officer P. muasa									
No.													
							SAMPLING OF DAY 1				15th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H11 T1	26.90435	31.89987	228	Thicket		0	0	0	4	0	0		
H11 T2	26.89657	31.90373	199	Woodland		0	0	0	5	0	1		
H11 T3	26.88834	31.90613	192	Thicket		0	0	0	4	0	0		
H11 T4	26.88181	31.89738	113	Thicket		0	0	0	4	0	0	Trap set pass the river bed	
	To the North side of the grid is small scale farming and sugar plantation to the South												
								SAMPLING OF DAY 2			16th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H11 T1	26.90435	31.89987	228	Thicket		0	0	0	0	0	0	This trap was destroyed by livestock and removed	
H11 T2	26.89657	31.90373	199	Woodland		0	0	0	3	0	0		
H11 T3	26.88834	31.90613	192	Thicket		0	0	0	4	0	0		
H11 T4	26.88181	31.89738	113	Thicket		0	0	0	3	0	0		
								SAMPLING OF DAY 3			17th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	

									Stomoxys	Tabanids			
H11 T1	26.90435	31.89987	228	Thicket		0	0	0	0	0	0		
H11 T2	26.89657	31.90373	199	Woodland		0	0	0	2	0	0		
H11 T3	26.88834	31.90613	192	Thicket		0	0	0	2	0	0		
H11 T4	26.88181	31.89738	113	Thicket		0	0	0	0	0	0		
Grid ID.	H12			UTM Zone	36			Date	13th and 14th April 2008				
Team	2			Data officer P. muasa									
No.													
							SAMPLING OF DAY 1				15th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H12 T1	26.96560	31.91297	201	Gr/ Wood		0	0	0	5	0	0		
H12 T2	26.95837	31.91278	194	Gr/ Wood		0	0	0	4	0	1		
H12 T3	26.95279	31.91452	185	Gr/ Thicket		0	0	0	3	0	3		
H12 T4	26.95134	31.92354	168	Thicket		0	0	0	2	0	2	The traps are outside the grid but	
H12 T5	26.98996	31.93852	226	Gr/ Thicket		0	0	0	5	0	1	suitable habitats for tsetse flies if any	
H12 T6	26.97875	31.92972	215	Gr/ Thicket		0	0	0	2	0	1	found. Next to the Nisela Game Reserve	
H12 T7	26.98607	31.92988	229	Gr/ Thicket		0	0	0	0	0	0		
H12 T8	26.98932	31.92965	232	Gr/ Wood		0	0	0	10	0	10		
H12 T9	26.96784	31.92094	184	Thicket		0	0	0	2	0	2		
H12 T10	26.97344	31.91095	206	Thicket		0	0	0	4	0	4		
								SAMPLING OF DAY 2			16th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H12 T1	26.96560	31.91297	201	Gr/ Wood		0	0	0	4	0	0		
H12 T2	26.95837	31.91278	194	Gr/ Wood		0	0	0	0	0	0		
H12 T3	26.95279	31.91452	185	Gr/ Thicket		0	0	0	5	0	0		
H12 T4	26.95134	31.92354	168	Thicket		0	0	0	8	0	0		
H12 T5	26.98996	31.93852	226	Gr/ Thicket		0	0	0	2	0	0		
H12 T6	26.97875	31.92972	215	Gr/ Thicket		0	0	0	7	0	0		
H12 T7	26.98607	31.92988	229	Gr/ Thicket		0	0	0	3	0	1		
H12 T8	26.98932	31.92965	232	Gr/ Wood		0	0	0	8	0	3		
H12 T9	26.96784	31.92094	184	Thicket		0	0	0	14	0	1		
H12 T10	26.97344	31.91095	206	Thicket		0	0	0	12	0	1		
								SAMPLING OF DAY 3			17th April 2008		

						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H12 T1	26.96560	31.91297	201	Gr/ Wood		0	0	0	3	1	0		
H12 T2	26.95837	31.91278	194	Gr/ Wood		0	0	0	0	0	0		
H12 T3	26.95279	31.91452	185	Gr/ Thicket		0	0	0	3	0	0		
H12 T4	26.95134	31.92354	168	Thicket		0	0	0	14	1	0		
H12 T5	26.98996	31.93852	226	Gr/ Thicket		0	0	0	0	0	0		
H12 T6	26.97875	31.92972	215	Gr/ Thicket		0	0	0	8	2	0		
H12 T7	26.98607	31.92988	229	Gr/ Thicket		0	0	0	0	0	0		
H12 T8	26.98932	31.92965	232	Gr/ Wood		0	0	0	23	1	0		
H12 T9	26.96784	31.92094	184	Thicket		0	0	0	10	2	0		
H12 T10	26.97344	31.91095	206	Thicket		0	0	0	25	0	0		
Grid ID.	I 4			UTM Zone	36			Date	27th April 2008				
Team	2			Data officer P. muasa									
No.													
							SAMPLING OF DAY 1			28th April 2008			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
		TRAPS IN MLAWULA PARK											
I 4 T1	26.20590	31.99193	194	Woodland		0	0	0	1	2	0		
I 4 T2	26.19753	31.99401	172	Thicket		0	0	0	0	0	0		
I 4 T3	26.19063	31.99306	171	Thicket		0	0	0	0	0	0		
I 4 T4	26.18740	31.99536	156	Thicket		0	0	0	7	0	0		
I 4 T5	26.18038	31.99729	145	Thicket		0	0	0	7	0	0	Near river with crocodiles	
I 4 T6	26.15655	31.98498	192	Woodland		0	0	0	52	2	1		
I 4 T7	26.16126	31.98973	230	Woodland		0	0	0	40	3	1		
I 4 T8	26.16905	31.99329	169	Woodland		0	0	0	1	0	1		
I 4 T9	26.16215	32.00224	196	Woodland		0	0	0	4	0	0		
								SAMPLING OF DAY 2			29th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I 4 T1	26.20590	31.99193	194	Woodland		0	0	0	2	1	0		
I 4 T2	26.19753	31.99401	172	Thicket		0	0	0	0	0	0		
I 4 T3	26.19063	31.99306	171	Thicket		0	0	0	0	0	0		

I 4 T4	26.18740	31.99536	156	Thicket		0	0	0	4	3	0		
I 4 T5	26.18038	31.99729	145	Thicket		0	0	0	5	0	0		
I 4 T6	26.15655	31.98498	192	Woodland		0	0	0	108	0	0		
I 4 T7	26.16126	31.98973	230	Woodland		0	0	0	1	0	0		
I 4 T8	26.16905	31.99329	169	Woodland		0	0	0	0	0	0		
I 4 T9	26.16215	32.00224	196	Woodland		0	0	0	0	0	0		
								SAMPLING OF DAY 3			30th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I 4 T1	26.20590	31.99193	194	Woodland		0	0	0	0	0	0		
I 4 T2	26.19753	31.99401	172	Thicket		0	0	0	1	0	0		
I 4 T3	26.19063	31.99306	171	Thicket		0	0	0	2	0	0		
I 4 T4	26.18740	31.99536	156	Thicket		0	0	0	4	0	0		
I 4 T5	26.18038	31.99729	145	Thicket		0	0	0	0	0	0		
I 4 T6	26.15655	31.98498	192	Woodland		0	0	0	28	2	0		
I 4 T7	26.16126	31.98973	230	Woodland		0	0	0	1	0	1		
I 4 T8	26.16905	31.99329	169	Woodland		0	0	0	3	0	2		
I 4 T9	26.16215	32.00224	196	Woodland		0	0	0	2	0	0		
Grid ID.	I5			UTM Zone	36			Date	24th April 2008				
Team	2		GRID IN MLAWULA NATURE RESERVE					Fax 268 3838885			HQ 4161875		
No.				Data officer P. muasa									
								SAMPLING OF DAY 1		25th April 2008			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I5 T1	26.22068	31.99546	169	Thicket		0	0	0	0	0	0		
I5 T2	26.22850	31.99130	194	Thicket		0	0	0	0	0	0		
I5 T3	26.23691	31.98713	201	Woodland		0	0	0	1	0	0		
I5 T4	26.24431	31.98127	189	Woodland		0	0	0	2	0	0		
I5 T5	26.25080	31.97605	218	Woodland		0	0	0	4	0	0		
I5 T6	26.25790	31.97175	213	Thicket		0	0	0	0	0	0		
I5 T7	26.26556	31.96816	210	Thicket		0	0	0	0	0	0		
I5 T8	26.27371	31.96724	217	Woodland		0	0	0	8	0	0		
I5 T9	26.28128	31.96400	237	Thicket		0	0	0	2	0	0		
I5 T10	26.28891	31.96252	245	Th/Wd		0	0	0	12	0	0		
I5 T11	26.25746	31.97614	202	Woodland		0	0	0	18	0	0		
I5 T12	26.26225	31.98202	201	Thicket		0	0	0	3	0	1	Near seasonal river	

I5 T13	26.26841	31.98481	216	Thicket		0	0	0	0	0	0		
I5 T14	26.26957	31.98681	222	Thicket		0	0	0	5	0	0		
I5 T15	26.27777	31.98704	263	Woodland		0	0	0	26	0	0		
I5 T16	26.25412	31.98105	200	Wd/Gr		0	0	0	1	0	0		
I5 T17	26.22908	31.99365	188	Woodland		0	0	0	1	0	0		
I5 T18	26.23182	31.99774	177	Woodland		0	0	0	2	0	0	Near river	
I5 T19	26.22392	31.99902	164	Woodland		0	0	0	0	0	0		
I5 T20	26.23517	31.99439	173	Woodland		0	0	0	0	0	0		
								SAMPLING OF DAY 2			26th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I5 T1	26.22068	31.99546	169	Thicket		0	0	0	0	1	0		
I5 T2	26.22850	31.99130	194	Thicket		0	0	0	9	0	0		
I5 T3	26.23691	31.98713	201	Woodland		0	0	0	3	1	1		
I5 T4	26.24431	31.98127	189	Woodland		0	0	0	0	0	0		
I5 T5	26.25080	31.97605	218	Woodland		0	0	0	3	1	0		
I5 T6	26.25790	31.97175	213	Thicket		0	0	0	1	0	0		
I5 T7	26.26556	31.96816	210	Thicket		0	0	0	1	0	1		
I5 T8	26.27371	31.96724	217	Woodland		0	0	0	3	1	2		
I5 T9	26.28128	31.96400	237	Thicket		0	0	0	1	0	0		
I5 T10	26.28891	31.96252	245	Th/Wd		0	0	0	5	0	0		
I5 T11	26.25746	31.97614	202	Woodland		0	0	0	6	1	0		
I5 T12	26.26225	31.98202	201	Thicket	*G.austeni*	0	1	1	1	0	0	Near seasonal river	
I5 T13	26.26841	31.98481	216	Thicket		0	0	0	3	1	2		
I5 T14	26.26957	31.98681	222	Thicket		0	0	0	14	0	0		
I5 T15	26.27777	31.98704	263	Woodland		0	0	0	49	0	2		
I5 T16	26.25412	31.98105	200	Wd/Gr		0	0	0	4	0	0		
I5 T17	26.22908	31.99365	188	Woodland		0	0	0	2	4	0		
I5 T18	26.23182	31.99774	177	Woodland		0	0	0	2	1	0		
I5 T19	26.22392	31.99902	164	Woodland		0	0	0	2	1	0		
I5 T20	26.23517	31.99439	173	Woodland		0	0	0	2	1	0		
								SAMPLING OF DAY 3			29th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I5 T1	26.22068	31.99546	169	Thicket		0	0	0	0	0	0		
I5 T2	26.22850	31.99130	194	Thicket		0	0	0	9	0	0		
I5 T3	26.23691	31.98713	201	Woodland		0	0	0	4	2	1		
I5 T4	26.24431	31.98127	189	Woodland		0	0	0	0	0	0		

I5 T5	26.25080	31.97605	218	Woodland		0	0	0	3	1	0		
I5 T6	26.25790	31.97175	213	Thicket		0	0	0	0	0	0		
I5 T7	26.26556	31.96816	210	Thicket		0	0	0	1	0	1		
I5 T8	26.27371	31.96724	217	Woodland		0	0	0	4	1	1		
I5 T9	26.28128	31.96400	237	Thicket		0	0	0	1	0	0		
I5 T10	26.28891	31.96252	245	Th/Wd		0	0	0	5	0	0		
I5 T11	26.25746	31.97614	202	Woodland		0	0	0	6	1	2		
I5 T12	26.26225	31.98202	201	Thicket		0	0	0	2	0	0		
I5 T13	26.26841	31.98481	216	Thicket		0	0	0	4	1	1		
I5 T14	26.26957	31.98681	222	Thicket		0	0	0	14	0	0		
I5 T15	26.27777	31.98704	263	Woodland		0	0	0	49	0	1		
I5 T16	26.25412	31.98105	200	Wd/Gr		0	0	0	4	0	0		
I5 T17	26.22908	31.99365	188	Woodland		0	0	0	1	4	0		
I5 T18	26.23182	31.99774	177	Woodland		0	0	0	0	0	0		
I5 T19	26.22392	31.99902	164	Woodland		0	0	0	1	0	0		
I5 T20	26.23517	31.99439	173	Woodland		0	0	0	3	2	0		
Grid ID.	J9			UTM Zone	36			Date	19th and 20th April 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				21st April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J9 T1	26.68760	32.09000	480	Grassland		0	0	0	1	0	1	Housefly	
J9 T2	26.68873	32.08604	475	Thicket		0	0	0	53	0	11	Houseflies	
J9 T3	26.63252	32.07062	531	Thicket		0	0	0	10	0	0		
J9 T4	26.63434	32.07313	531	Thicket		0	0	0	0	0	0		
						SAMPLING OF TRAPS DAY 2					22nd April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J9 T1	26.68760	32.09000	480	Grassland		0	0	0	0	0	0		
J9 T2	26.68873	32.08604	475	Thicket		0	0	0	0	2	5	Housefly, fruitfly and wasp	
J9 T3	26.63252	32.07062	531	Thicket		0	0	0	0	0	0		
J9 T4	26.63434	32.07313	531	Thicket		0	0	0	0	0	0		
						SAMPLING OF TRAPS DAY 3					23rd April 2008		
						Tsetse			Biting Flies				

Trap	Latitude(y)	Longitude(x)	Alt	Veg.	Species	♂	♀	Total	Family		Others	Remarks	
No.	Coordinates	Coordinates	(m)	Type					Stomoxys	Tabanids			
J9 T1	26.68760	32.09000	480	Grassland		0	0	0	1	0	0		
J9 T2	26.68873	32.08604	475	Thicket		0	0	0	0	0	0		
J9 T3	26.63252	32.07062	531	Thicket		0	0	0	0	0	0		
J9 T4	26.63434	32.07313	531	Thicket		0	0	0	0	0	0		
Grid ID.	B1			UTM Zone	36			Date	1st May 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				3rd May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
B1 T1	25.91111	31.30663	813	Forest		0	0	0	0	0	1	Housefly	
B1 T2	25.85851	31.32031	592	Thicket		0	0	0	0	0	1	Butterfly	
B1 T3	25.86718	31.31670	582	Thicket		0	0	0	0	0	1	Moth	
B1 T4	25.87490	31.30970	659	Thicket		0	0	0	0	0	1	Housefly	
						SAMPLING OF TRAPS DAY 2					4th May 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
B1 T1	25.91111	31.30663	813	Forest		0	0	0	0	0	1	Housefly	
B1 T2	25.85851	31.32031	592	Thicket		0	0	0	0	0	1	Green fly	
B1 T3	25.86718	31.31670	582	Thicket		0	0	0	1	0	1	Moth	
B1 T4	25.87490	31.30970	659	Thicket		0	0	0	0	0	1	Housefly	
						SAMPLING OF TRAPS DAY 3					5th May 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
B1 T1	25.91111	31.30663	813	Forest		0	0	0	6	0	25	Houseflies	
B1 T2	25.85851	31.32031	592	Thicket		0	0	0	0	0	0		
B1 T3	25.86718	31.31670	582	Thicket		0	0	0	4	0	0		
B1 T4	25.87490	31.30970	659	Thicket		0	0	0	0	0	0		

Grid ID.	D1			UTM Zone	36			Date	2nd May 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				3rd May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
D1 T1	25.84424	31.49145	510	Thicket		0	0	0	8	0	2	Houseflies	
D1 T2	25.84290	31.49041	561	Thicket		0	0	0	0	0	0	Trap near top of the hill	
						SAMPLING OF TRAPS DAY 2					4th May 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
D1 T1	25.84424	31.49145	510	Thicket		0	0	0	0	0	2	1 Butterfly and 1 housefly	
D1 T2	25.84290	31.49041	561	Thicket		0	0	0	0	0	2	Houseflies	
						SAMPLING OF TRAPS DAY 3					5th May 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
D1 T1	25.84424	31.49145	510	Thicket		0	0	0	0	0	2	1 Grasshopper and 1 Housefly	
D1 T2	25.84290	31.49041	561	Thicket		0	0	0	0	0	1	Housefly	
Grid ID.	F3			UTM Zone	36			Date	29th April 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				30th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Acetone only (Woodland with good grass cover)	
F3 T1	26.02946	31.71483	333	Woodland		0	0	0	0	0	1	Housefly	
F3 T2	26.04642	31.71463	337	Woodland		0	0	0	0	0	0		
F3 T3	26.04925	31.71406	336	Woodland		0	0	0	0	0	0		
F3 T4	26.05394	31.71584	346	Woodland		0	0	0	0	1	0		

F3 T5	26.05745	31.71497	345	Woodland		0	0	0	0	1	0		
F3 T6	26.06097	31.71239	360	Woodland		0	0	0	5	1	2	Bees	
F3 T7	26.06469	31.71094	343	Woodland		0	0	0	0	0	0		
F3 T8	26.06483	31.71330	343	Woodland		0	0	0	4	2	2	Houseflies	
F3 T9	26.06477	31.71581	347	Woodland		0	0	0	0	1	5	1 wasp 4 houseflies	
F3 T10	26.06746	31.70825	336	Woodland		0	0	0	0	0	3	1 wasp 2 houseflies	
F3 T11	26.06611	31.70682	327	Woodland		0	0	0	0	1	4	1 bee 3 houseflies	
F3 T12	26.06346	31.70647	332	Woodland		0	0	0	2	0	0		
F3 T13	26.07527	31.70640	328	Woodland		0	0	0	3	1	0		
F3 T14	26.07430	31.70360	324	Woodland		0	0	0	0	0	2	Houseflies	
						SAMPLING OF TRAPS DAY 2					1st May 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
F3 T1	26.02946	31.71483	333	Woodland		0	0	0	0	0	0		
F3 T2	26.04642	31.71463	337	Woodland		0	0	0	0	0	0		
F3 T3	26.04925	31.71406	336	Woodland		0	0	0	2	0	3	Houseflies	
F3 T4	26.05394	31.71584	346	Woodland		0	0	0	0	0	1	Housefly	
F3 T5	26.05745	31.71497	345	Woodland		0	0	0	0	3	0		
F3 T6	26.06097	31.71239	360	Woodland		0	0	0	0	0	0		
F3 T7	26.06469	31.71094	343	Woodland		0	0	0	0	0	2	Houseflies	
F3 T8	26.06483	31.71330	343	Woodland		0	0	0	0	0	1	Housefly	
F3 T9	26.06477	31.71581	347	Woodland		0	0	0	0	0	6	Houseflies	
F3 T10	26.06746	31.70825	336	Woodland		0	0	0	0	0	4	1 wasp 3 houseflies	
F3 T11	26.06611	31.70682	327	Woodland		0	0	0	0	0	2	1 wasp 1 housefly	
F3 T12	26.06346	31.70647	332	Woodland		0	0	0	1	0	2	1 bee 1 housefly	
F3 T13	26.07527	31.70640	328	Woodland		0	0	0	0	0	1	Housefly	
F3 T14	26.07430	31.70360	324	Woodland		0	0	0	0	0	0		
						SAMPLING OF TRAPS DAY 3					2nd May 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
F3 T1	26.02946	31.71483	333	Woodland		0	0	0	0	0	0		
F3 T2	26.04642	31.71463	337	Woodland		0	0	0	0	0	1	Butterfly	
F3 T3	26.04925	31.71406	336	Woodland		0	0	0	0	0	0		
F3 T4	26.05394	31.71584	346	Woodland		0	0	0	0	0	0		
F3 T5	26.05745	31.71497	345	Woodland		0	0	0	0	0	0		
F3 T6	26.06097	31.71239	360	Woodland		0	0	0	0	0	0		
F3 T7	26.06469	31.71094	343	Woodland		0	0	0	0	0	0		
F3 T8	26.06483	31.71330	343	Woodland		0	0	0	0	0	3	Houseflies	
F3 T9	26.06477	31.71581	347	Woodland		0	0	0	0	1	7	Houseflies	
F3 T10	26.06746	31.70825	336	Woodland		0	0	0	0	3	1	Housefly	

F3 T11	26.06611	31.70682	327	Woodland		0	0	0	0	0	0		
F3 T12	26.06346	31.70647	332	Woodland		0	0	0	1	0	1	Housefly	
F3 T13	26.07527	31.70640	328	Woodland		0	0	0	0	0	3	Houseflies	
F3 T14	26.07430	31.70360	324	Woodland		0	0	0	0	0	0		
Grid ID.	F8			UTM Zone	36			Date	27th April 2008				
Team	1		Traps deployed outside Mikhail Nature Reserve										
No.				Data officer J. Andoke									
							SAMPLING OF DAY 1				28th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Semi-arid land with poor grass cover	
F8 T1	26.55547	31.72154	325	Thicket		0	0	0	0	0	1	Housefly	
F8 T2	26.55457	31.71819	323	Thicket		0	0	0	2	0	1	Housefly	
F8 T3	26.54958	31.71696	323	Thicket		0	0	0	3	0	4	Houseflies	
F8 T4	26.54778	31.71746	325	Grassland		0	0	0	1	0	1	Housefly	
F8 T5	26.54571	31.71679	326	Thicket		0	0	0	2	0	1	Housefly	
F8 T6	26.54396	31.71351	326	Woodland		0	0	0	0	0	1	Housefly	
F8 T7	26.54210	31.71021	330	Thicket		0	0	0	1	0	1	Housefly	
F8 T8	26.53853	31.68797	371	Thicket		0	0	0	1	0	2	Houseflies	
F8 T9	26.54162	31.68541	367	Thicket		0	0	0	0	0	1	Housefly	
F8 T10	26.54579	31.68236	392	Thicket		0	0	0	0	0	0	Houseflies	
F8 T11	26.55303	31.68221	459	Thicket		0	0	0	1	0	1	Housefly	
						SAMPLING OF TRAPS DAY 2					29th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
F8 T1	26.55547	31.72154	325	Thicket		0	0	0	0	0	0		
F8 T2	26.55457	31.71819	323	Thicket		0	0	0	1	0	0		
F8 T3	26.54958	31.71696	323	Thicket		0	0	0	3	0	5	Houseflies	
F8 T4	26.54778	31.71746	325	Grassland		0	0	0	1	0	0		
F8 T5	26.54571	31.71679	326	Thicket		0	0	0	3	0	1	Housefly	
F8 T6	26.54396	31.71351	326	Woodland		0	0	0	0	0	0		
F8 T7	26.54210	31.71021	330	Thicket		0	0	0	0	0	2	Houseflies	
F8 T8	26.53853	31.68797	371	Thicket		0	0	0	1	0	3	Houseflies	
F8 T9	26.54162	31.68541	367	Thicket		0	0	0	0	0	1	Housefly	
F8 T10	26.54579	31.68236	392	Thicket		0	0	0	0	0	0		
F8 T11	26.55303	31.68221	459	Thicket		0	0	0	0	0	1	Housefly	

						SAMPLING OF TRAPS DAY 3					30th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
F8 T1	26.55547	31.72154	325	Thicket		0	0	0	0	0	1	Housefly	
F8 T2	26.55457	31.71819	323	Thicket		0	0	0	1	0	0		
F8 T3	26.54958	31.71696	323	Thicket		0	0	0	2	0	3	Houseflies	
F8 T4	26.54778	31.71746	325	Grassland		0	0	0	1	0	0		
F8 T5	26.54571	31.71679	326	Thicket		0	0	0	2	0	0		
F8 T6	26.54396	31.71351	326	Woodland		0	0	0	0	0	0		
F8 T7	26.54210	31.71021	330	Thicket		0	0	0	0	0	2	Houseflies	
F8 T8	26.53853	31.68797	371	Thicket		0	0	0	1	0	2	Houseflies	
F8 T9	26.54162	31.68541	367	Thicket		0	0	0	0	0	1	Housefly	
F8 T10	26.54579	31.68236	392	Thicket		0	0	0	0	0	0		
F8 T11	26.55303	31.68221	459	Thicket		0	0	0	0	0	0		
Grid ID.	F15			UTM Zone	36			Date	15th and 16th April 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				17th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
F15 T1	27.27608	31.72642	259	Scrub land		0	0	0	10	1	11	Other flies are houseflies	
F15 T2	27.28374	31.71622	240	Scrub land		0	0	0	16	0	3	Houseflies	
F15 T3	27.28619	31.69411	270	Scrub land		0	0	0	35	0	1	Housefly	
F15 T4	27.27699	31.65697	319	Scrub land		0	0	0	12	0	11	Tampered with by the Policemen	
F15 T5	27.28492	31.63886	383	Grassland		0	0	0	5	2	6	Houseflies	
						SAMPLING OF TRAPS DAY 2					18th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
F15 T1	27.27608	31.72642	259	Scrub land		0	0	0	13	0	4	Other flies - Houseflies	
F15 T2	27.28374	31.71622	240	Scrub land		0	0	0	9	0	3	Houseflies	
F15 T3	27.28619	31.69411	270	Scrub land		0	0	0	54	0	1	Housefly	
F15 T4	27.27699	31.65697	319	Scrub land		0	0	0	2	0	6	Houseflies	
F15 T5	27.28492	31.63886	383	Grassland		0	0	0	1	0	3	Houseflies	

						SAMPLING OF TRAPS DAY 3				19th April 2008		
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
F15 T1	27.27608	31.72642	259	Scrub land		0	0	0	3	0	1	
F15 T2	27.28374	31.71622	240	Scrub land		0	0	0	0	0	0	Tampered with
F15 T3	27.28619	31.69411	270	Scrub land		0	0	0	13	1	6	Houseflies and wasps
F15 T4	27.27699	31.65697	319	Scrub land		0	0	0	1	0	0	
F15 T5	27.28492	31.63886	383	Grassland		0	0	0	1	0	0	
Grid ID.	G3			UTM Zone	36			Date	29th April 2008			
Team	1			Data officer J. Andoke								
No.												
						SAMPLING OF DAY 1				30th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		Thicket with good grass cover
G3 T1	26.02379	31.77174	269	Thicket		0	0	0	2	1	0	
G3 T2	26.03101	31.77305	257	Thicket		0	0	0	2	0	3	Houseflies
G3 T3	26.03916	31.77433	260	Woodland		0	0	0	0	0	1	Housefly
G3 T4	26.05325	31.77509	258	Thicket		0	0	0	1	0	7	Houseflies
G3 T5	26.06189	31.77529	248	Thicket		0	0	0	0	0	0	
G3 T6	26.06256	31.77336	246	Thicket		0	0	0	1	0	0	
G3 T7	26.06792	31.76883	255	Thicket		0	0	0	1	0	1	Housefly
						SAMPLING OF TRAPS DAY 2				1st may 2008		
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
G3 T1	26.02379	31.77174	269	Thicket		0	0	0	1	1	2	Houseflies
G3 T2	26.03101	31.77305	257	Thicket		0	0	0	1	1	2	Houseflies
G3 T3	26.03916	31.77433	260	Woodland		0	0	0	0	0	2	Butterflies
G3 T4	26.05325	31.77509	258	Thicket		0	0	0	0	1	2	Houseflies
G3 T5	26.06189	31.77529	248	Thicket		0	0	0	1	1	0	
G3 T6	26.06256	31.77336	246	Thicket		0	0	0	0	0	0	
G3 T7	26.06792	31.76883	255	Thicket		0	0	0	0	0	1	Praying mantis
						SAMPLING OF TRAPS DAY 3				2nd May 2008		
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								

No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
G3 T1	26.02379	31.77174	269	Thicket		0	0	0	0	0	0	
G3 T2	26.03101	31.77305	257	Thicket		0	0	0	3	0	4	1 wasp and 3 houseflies
G3 T3	26.03916	31.77433	260	Woodland		0	0	0	0	2	1	Housefly
G3 T4	26.05325	31.77509	258	Thicket		0	0	0	0	0	2	Houseflies
G3 T5	26.06189	31.77529	248	Thicket		0	0	0	0	0	3	Houseflies
G3 T6	26.06256	31.77336	246	Thicket		0	0	0	0	2	0	
G3 T7	26.06792	31.76883	255	Thicket		0	0	0	0	0	0	
Grid ID.	G5			UTM Zone	36			Date	23rd April 2008			
Team	1			Data officer J. Andoke								
No.				GRID INSIDE HLANE ROYAL NATIONAL PARK								
							SAMPLING OF DAY 1				24th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		Acetone Only
G5 T1	26.25126	31.76021	264	Thicket		0	0	0	0	0	1	Houseflies
G5 T2	26.25479	31.76101	266	Thicket		0	0	0	2	1	4	Houseflies
G5 T3	26.25864	31.76422	270	Thicket		0	0	0	0	0	0	
G5 T4	26.26460	31.76974	269	Thicket		0	0	0	1	0	4	Houseflies
G5 T5	26.26717	31.77288	270	Thicket		0	0	0	1	0	3	Houseflies
G5 T6	26.27145	31.77651	277	Thicket		0	0	0	9	0	4	Houseflies
G5 T7	26.27950	31.77579	274	Thicket		0	0	0	7	0	9	Houseflies
G5 T8	26.28633	31.77247	272	Thicket		0	0	0	0	0	1	Housefly
G5 T9	26.28948	31.77281	273	Thicket		0	0	0	0	0	0	
						SAMPLING OF TRAPS DAY 2					25th April 2008	
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
G5 T1	26.25126	31.76021	264	Thicket		0	0	0	6	1	7	Houseflies
G5 T2	26.25479	31.76101	266	Thicket		0	0	0	2	3	7	Houseflies
G5 T3	26.25864	31.76422	270	Thicket		0	0	0	1	2	3	Houseflies
G5 T4	26.26460	31.76974	269	Thicket		0	0	0	2	1	8	Houseflies
G5 T5	26.26717	31.77288	270	Thicket		0	0	0	9	0	6	Houseflies
G5 T6	26.27145	31.77651	277	Thicket		0	0	0	1	1	5	Houseflies
G5 T7	26.27950	31.77579	274	Thicket		0	0	0	2	0	9	8 Houseflies and 1 Grasshopper
G5 T8	26.28633	31.77247	272	Thicket		0	0	0	0	0	6	Houseflies
G5 T9	26.28948	31.77281	273	Thicket		0	0	0	0	0	3	Houseflies

						SAMPLING OF TRAPS DAY 3					26th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G5 T1	26.25126	31.76021	264	Thicket		0	0	0	11	0	11	Tampered with	
G5 T2	26.25479	31.76101	266	Thicket		0	0	0	0	0	3	Houseflies	
G5 T3	26.25864	31.76422	270	Thicket		0	0	0	0	0	1	Housefly	
G5 T4	26.26460	31.76974	269	Thicket		0	0	0	0	0	0		
G5 T5	26.26717	31.77288	270	Thicket		0	0	0	2	0	5	Houseflies	
G5 T6	26.27145	31.77651	277	Thicket		0	0	0	2	0	8	Houseflies	
G5 T7	26.27950	31.77579	274	Thicket		0	0	0	23	0	18	Houseflies	
G5 T8	26.28633	31.77247	272	Thicket		0	0	0	0	0	2	Houseflies	
G5 T9	26.28948	31.77281	273	Thicket		0	0	0	1	0	2	Houseflies	
Grid ID.	G6			UTM Zone	36			Date	23rd and 24th April 2008				
Team	1			Data officer J. Andoke									
No.													
						SAMPLING OF DAY 1					25th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		No urine applied	
G6 T1	26.32432	31.75485	296	Thicket		0	0	0	1	0	3	Houseflies	
G6 T2	26.32757	31.75331	297	Woodland		0	0	0	2	0	0		
G6 T3	26.33155	31.75272	300	Thicket		0	0	0	0	0	3	Houseflies and wasps	
G6 T4	26.32207	31.78653	298	Thicket		0	0	0	0	0	3	Houseflies	
G6 T5	26.34849	31.80136	317	Thicket		0	0	0	0	0	3	Houseflies, wasps	
G6 T6	26.31843	31.78349	294	Thicket		0	0	0	3	0	9	Urine applied - 3 wasps, 1 bee and houseflies	
G6 T7	26.32094	31.78209	288	Woodland		0	0	0	2	0	2	Bee and wasp	
G6 T8	26.32294	31.78127	293	Thicket		0	0	0	3	0	8	Houseflies	
G6 T9	26.32387	31.77872	308	Thicket		0	0	0	3	0	0		
G6 T10	26.32649	31.77757	316	Thicket		0	0	0	0	0	4	Houseflies	
G6 T11	26.32852	31.77580	321	Thicket		0	0	0	2	0	2	Bee and housefly	
G6 T12	26.33462	31.76825	328	Thicket		0	0	0	0	0	3	Wasp	
						SAMPLING OF TRAPS DAY 2					26th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G6 T1	26.32432	31.75485	296	Thicket		0	0	0	0	0	1	Housefly	

G6 T2	26.32757	31.75331	297	Woodland		0	0	0	0	0	0		
G6 T3	26.33155	31.75272	300	Thicket		0	0	0	0	0	1	Fruitfly	
G6 T4	26.32207	31.78653	298	Thicket		0	0	0	2	1	12	Houseflies	
G6 T5	26.34849	31.80136	317	Thicket		0	0	0	7	1	4	Houseflies	
G6 T6	26.31843	31.78349	294	Thicket		0	0	0	1	0	3		
G6 T7	26.32094	31.78209	288	Woodland		0	0	0	3	0	0		
G6 T8	26.32294	31.78127	293	Thicket		0	0	0	3	0	3		
G6 T9	26.32387	31.77872	308	Thicket		0	0	0	0	0	0		
G6 T10	26.32649	31.77757	316	Thicket		0	0	0	5	0	3	Houseflies	
G6 T11	26.32852	31.77580	321	Thicket		0	0	0	1	0	1	Housefly	
G6 T12	26.33462	31.76825	328	Thicket		0	0	0	1	0	1	Housefly	
						SAMPLING OF TRAPS DAY 3					27th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G6 T1	26.32432	31.75485	296	Thicket		0	0	0	0	0	1	Housefly	
G6 T2	26.32757	31.75331	297	Woodland		0	0	0	0	1	1	Housefly	
G6 T3	26.33155	31.75272	300	Thicket		0	0	0	0	0	0		
G6 T4	26.32207	31.78653	298	Thicket		0	0	0	9	0	23		
G6 T5	26.34849	31.80136	317	Thicket		0	0	0	2	0	0		
G6 T6	26.31843	31.78349	294	Thicket		0	0	0	4	1	5	Houseflies	
G6 T7	26.32094	31.78209	288	Woodland		0	0	0	3	0	4	Houseflies	
G6 T8	26.32294	31.78127	293	Thicket		0	0	0	0	0	3	Houseflies and butterfly	
G6 T9	26.32387	31.77872	308	Thicket		0	0	0	0	0	2	Houseflies	
G6 T10	26.32649	31.77757	316	Thicket		0	0	0	6	0	6	Houseflies	
G6 T11	26.32852	31.77580	321	Thicket		0	0	0	12	0	5	Houseflies	
G6 T12	26.33462	31.76825	328	Thicket		0	0	0	9	0	9	Houseflies	
Grid ID.	G8			UTM Zone	36			Date	22nd April 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				23rd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G8 T1	26.54378	31.81910	241	Woodland		0	0	0	10	0	8	Woodland neighboring cultivated fields (Houseflies)	
G8 T2	26.54365	31.82184	250	Woodland		0	0	0	0	0	0		
G8 T3	26.56390	31.82369	236	Woodland		0	0	0	1	0	0	Along the river	
G8 T4	26.56127	31.81481	240	Thicket		0	0	0	0	0	1	Private Ranch	
G8 T5	26.56104	31.81105	241	Thicket		0	0	0	1	0	1	Inside the Ranch (Housefly)	

G8 T6	26.56422	31.80561	260	Thicket		0	0	0	5	0	3	Inside the Ranch (Houseflies, wasp and bee)
G8 T7	26.56525	31.80181	263	Thicket		0	0	0	7	0	3	Inside the Ranch - Cows tampered with trap
G8 T8	26.56184	31.78721	274	Thicket		0	0	0	3	0	4	Inside the Ranch (Houseflies)
G8 T9	26.56204	31.79074	263	Thicket		0	0	0	1	0	1	Inside the Ranch (Housefly)
G8 T10	26.56330	31.79534	249	Thicket		0	0	0	0	0	2	Inside the Ranch (Houseflies)
						SAMPLING OF TRAPS DAY 2					24th April 2008	
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
G8 T1	26.54378	31.81910	241	Woodland		0	0	0	7	0	7	Houseflies
G8 T2	26.54365	31.82184	250	Woodland		0	0	0	0	0	0	
G8 T3	26.56390	31.82369	236	Woodland		0	0	0	0	0	0	
G8 T4	26.56127	31.81481	240	Thicket		0	0	0	0	0	1	Houseflies
G8 T5	26.56104	31.81105	241	Thicket		0	0	0	1	0	0	
G8 T6	26.56422	31.80561	260	Thicket		0	0	0	2	0	2	Houseflies
G8 T7	26.56525	31.80181	263	Thicket		0	0	0	5	0	2	Houseflies
G8 T8	26.56184	31.78721	274	Thicket		0	0	0	2	0	3	Houseflies
G8 T9	26.56204	31.79074	263	Thicket		0	0	0	2	0	1	Wasp
G8 T10	26.56330	31.79534	249	Thicket		0	0	0	0	0	1	Housefly
						SAMPLING OF TRAPS DAY 3					25th April 2008	
						Tsetse			Biting Flies			
Trap	Latitude(y)	Longitude(x)	Alt	Veg.								
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
G8 T1	26.54378	31.81910	241	Woodland		0	0	0	3	0	3	Houseflies
G8 T2	26.54365	31.82184	250	Woodland		0	0	0	3	0	0	
G8 T3	26.56390	31.82369	236	Woodland		0	0	0	0	0	0	
G8 T4	26.56127	31.81481	240	Thicket		0	0	0	0	0	0	
G8 T5	26.56104	31.81105	241	Thicket		0	0	0	0	0	0	
G8 T6	26.56422	31.80561	260	Thicket		0	0	0	1	0	1	Houseflies
G8 T7	26.56525	31.80181	263	Thicket		0	0	0	0	0	2	Houseflies
G8 T8	26.56184	31.78721	274	Thicket		0	0	0	0	0	0	
G8 T9	26.56204	31.79074	263	Thicket		0	0	0	0	0	0	
G8 T10	26.56330	31.79534	249	Thicket		0	0	0	0	0	1	Fruitfly
Grid ID.	G9			UTM Zone	36			Date	22nd April 2008			
Team	1			Data officer J. Andoke								
No.												

							SAMPLING OF DAY 1					23rd April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		South side of the grid - Homesteads and	
												cultivated land	
G9 T1	26.69521	31.76374	190	Thicket		0	0	0	7	0	1	Trap set after homestead with crush (Moth)	
G9 T2	26.69444	31.77123	181	Thicket		0	0	0	38	0	1	Moth	
G9 T3	26.69444	31.77352	175	Thicket		0	0	0	4	0	0	Trap set along river bed	
G9 T4	26.68307	31.77378	205	Thicket		0	0	0	1	0	0	Trap set along the road after the river	
G9 T5	26.68129	31.78618	234	Thicket		0	0	0	2	2	1	Bug	
G9 T6	26.67904	31.78795	232	Thicket		0	0	0	2	0	1	Bee	
G9 T7	26.67709	31.79192	217	Thicket		0	0	0	2	0	0		
G9 T8	26.67189	31.79728	217	Thicket		0	0	0	3	1	2	Ant and spider	
G9 T9	26.67329	31.80186	211	Thicket		0	0	0	8	0	1	Trap near warthog burrows (Housefly)	
						SAMPLING OF TRAPS DAY 2					24th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G9 T1	26.69521	31.76374	190	Thicket		0	0	0	5	0	0		
G9 T2	26.69444	31.77123	181	Thicket		0	0	0	16	0	0		
G9 T3	26.69444	31.77352	175	Thicket		0	0	0	2	0	0		
G9 T4	26.68307	31.77378	205	Thicket		0	0	0	0	0	0		
G9 T5	26.68129	31.78618	234	Thicket		0	0	0	1	0	0		
G9 T6	26.67904	31.78795	232	Thicket		0	0	0	2	0	0		
G9 T7	26.67709	31.79192	217	Thicket		0	0	0	1	0	0		
G9 T8	26.67189	31.79728	217	Thicket		0	0	0	1	0	0		
G9 T9	26.67329	31.80186	211	Thicket		0	0	0	5	0	1	Housefly	
						SAMPLING OF TRAPS DAY 3					25th April 2008		
						Tsetse			Biting Flies				
Trap	Latitude(y)	Longitude(x)	Alt	Veg.									
No.	Coordinates	Coordinates	(m)	Type	Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G9 T1	26.69521	31.76374	190	Thicket		0	0	0	0	0	0		
G9 T2	26.69444	31.77123	181	Thicket		0	0	0	19	0	0		
G9 T3	26.69444	31.77352	175	Thicket		0	0	0	5	0	3	2 Houseflies and 1 moth	
G9 T4	26.68307	31.77378	205	Thicket		0	0	0	1	0	0		
G9 T5	26.68129	31.78618	234	Thicket		0	0	0	2	0	1	Housefly	
G9 T6	26.67904	31.78795	232	Thicket		0	0	0	2	0	1	Housefly	
G9 T7	26.67709	31.79192	217	Thicket		0	0	0	1	0	0		
G9 T8	26.67189	31.79728	217	Thicket		0	0	0	6	0	4	3 Houseflies and wasp	
G9 T9	26.67329	31.80186	211	Thicket		0	0	0	2	0	0		

Grid ID.	G15			UTM Zone	36			Date	13th and 15 April 2008				
Team	1			Data officer J. Andoke									
No.													
						SAMPLING OF DAY 1					16th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G15 T1	27.28442	31.80549	335	Grassland		0	0	0	43	1	0		
G15 T2	27.29784	31.79913	435	Grassland		0	0	0	2	1	2		
G15 T3	27.29866	31.81258	337	Lantana B		0	0	0	10	1	2	Tampered with	
G15 T4	27.29035	31.78840	378	Grassland		0	0	0	32	0	5	1 butterfly and other flies	
G15 T5	27.29952	31.79105	398	Grassland		0	0	0	5	0	2	houseflies	
G15 T6	27.30518	31.78164	303	Woodland		0	0	0	0	0	0		
G15 T7	27.29003	31.76703	352	Thicket		0	0	0	0	0	3	Other biting flies	
Note	No urine applied only acetone												
						SAMPLING OF TRAPS DAY 2					17th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G15 T1	27.28442	31.80549	335	Grassland		0	0	0	30	0	0		
G15 T2	27.29784	31.79913	435	Grassland		0	0	0	1	0	2		
G15 T3	27.29866	31.81258	337	Lantana B		0	0	0	6	0	1		
G15 T4	27.29035	31.78840	378	Grassland		0	0	0	15	0	4	Acetone bottle tampered with and other flies- houseflies	
G15 T5	27.29952	31.79105	398	Grassland		0	0	0	14	0	0		
G15 T6	27.30518	31.78164	303	Woodland		0	0	0	2	0	0		
G15 T7	27.29003	31.76703	352	Thicket		0	0	0	0	0	0		
								`					
						SAMPLING OF TRAPS DAY 3					18th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
G15 T1	27.28442	31.80549	335	Grassland		0	0	0	15	0	2	Others - Houseflies	
G15 T2	27.29784	31.79913	435	Grassland		0	0	0	0	0	1	Housefly	
G15 T3	27.29866	31.81258	337	Lantana B		0	0	0	15	1	4		

G15 T4	27.29035	31.78840	378	Grassland		0	0	0	4	0	5	Others - Houseflies
G15 T5	27.29952	31.79105	398	Grassland		0	0	0	3	0	0	
G15 T6	27.30518	31.78164	303	Woodland		0	0	0	0	0	1	Housefly
G15 T7	27.29003	31.76703	352	Thicket		0	0	0	3	0	2	Houseflies
Grid ID.	H4			UTM Zone	36			Date	28th April 2008			
Team	1		HLANE ROYAL NATIONAL PARK ON THE NORTHERN PART									
No.				Data officer J. Andoke								
							SAMPLING OF DAY 1				29th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H4 T1	26.20142	31.90203	263	Grassland		0	0	0	0	2	1	Spider
H4 T2	26.19832	31.90012	258	Grassland		0	0	0	6	2	24	Houseflies
H4 T3	26.19764	31.89745	256	Grassland		0	0	0	0	2	0	Houseflies
H4 T4	26.19965	31.89407	254	Grassland		0	0	0	3	1	9	Houseflies
H4 T5	26.19638	31.88840	233	Grassland		0	0	0	1	1	0	
H4 T6	26.19426	31.88499	240	Grassland		0	0	0	1	1	1	Housefly
H4 T7	26.19657	31.88192	247	Grassland		0	0	0	0	2	1	Housefly
H4 T8	26.19779	31.87807	266	Grassland		0	0	0	1	1	1	Housefly
H4 T9	26.19338	31.87817	256	Grassland		0	0	0	1	3	3	2 moths 1 spider
H4 10	26.18799	31.87774	238	Grassland		0	0	0	6	3	0	
H4 T11	26.18259	31.87162	243	Grassland		0	0	0	0	0	2	Spider and moth
H4 T12	26.18107	31.86362	248	Thicket		0	0	0	3	1	0	
H4 T13	26.17382	31.85911	221	Thicket		0	0	0	0	1	1	Housefly
						SAMPLING OF TRAPS DAY 2					30th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H4 T1	26.20142	31.90203	263	Grassland		0	0	0	0	1	0	
H4 T2	26.19832	31.90012	258	Grassland		0	0	0	5	1	30	Houseflies
H4 T3	26.19764	31.89745	256	Grassland		0	0	0	0	2	1	Housefly
H4 T4	26.19965	31.89407	254	Grassland		0	0	0	2	0	10	Houseflies
H4 T5	26.19638	31.88840	233	Grassland		0	0	0	0	1	0	
H4 T6	26.19426	31.88499	240	Grassland		0	0	0	1	2	1	Housefly
H4 T7	26.19657	31.88192	247	Grassland		0	0	0	0	2	1	Housefly
H4 T8	26.19779	31.87807	266	Grassland		0	0	0	0	1	1	Housefly
H4 T9	26.19338	31.87817	256	Grassland		0	0	0	0	1	1	Housefly
H4 10	26.18799	31.87774	238	Grassland		0	0	0	0	1	0	
H4 T11	26.18259	31.87162	243	Grassland		0	0	0	0	1	0	
H4 T12	26.18107	31.86362	248	Thicket		0	0	0	0	0	0	

H4 T13	26.17382	31.85911	221	Thicket		0	0	0	1	0	0		
						SAMPLING OF TRAPS DAY 3					1st May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
H4 T1	26.20142	31.90203	263	Grassland		0	0	0	0	0	2	Houseflies	
H4 T2	26.19832	31.90012	258	Grassland		0	0	0	4	1	29	Houseflies	
H4 T3	26.19764	31.89745	256	Grassland		0	0	0	1	1	25	Houseflies	
H4 T4	26.19965	31.89407	254	Grassland		0	0	0	5	5	51	Houseflies	
H4 T5	26.19638	31.88840	233	Grassland		0	0	0	0	1	1	Spider	
H4 T6	26.19426	31.88499	240	Grassland		0	0	0	1	0	1	Housefly	
H4 T7	26.19657	31.88192	247	Grassland		0	0	0	1	2	0		
H4 T8	26.19779	31.87807	266	Grassland		0	0	0	2	0	1	Housefly	
H4 T9	26.19338	31.87817	256	Grassland		0	0	0	1	0	1	Housefly	
H4 10	26.18799	31.87774	238	Grassland		0	0	0	0	0	2	Houseflies	
H4 T11	26.18259	31.87162	243	Grassland		0	0	0	0	1	3	1 Butterfly	
H4 T12	26.18107	31.86362	248	Thicket		0	0	0	0	1	0		
H4 T13	26.17382	31.85911	221	Thicket		0	0	0	1	0	1	Housefly	
Grid ID.	H5			UTM Zone	36			Date	23rd April 2008				
Team	1			Data officer J. Andoke									
No.				GRID INSIDE HLANE ROYAL NATIONAL PARK									
							SAMPLING OF DAY 1				24th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Traps 1-8 Cow urine + acetone	
												Traps 1-10 deployed on the West side of the grid	
H5 T1	26.24951	31.87509	274	Thicket		0	0	0	0	0	2	Grasshopper and moth	
H5 T2	26.24521	31.87503	267	Thicket		0	0	0	1	1	3	1 housefly, 1 moth and 1 wasp	
H5 T3	26.23599	31.87455	252	Thicket		0	0	0	3	1	4	2 houseflies 1 bee and 1 ant	
H5 T4	26.22680	31.87426	277	Thicket		0	0	0	0	0	1	Spider	
H5 T5	26.21714	31.87423	275	Thicket		0	0	0	3	4	0		
H5 T6	26.26150	31.81390	283	Thicket		0	0	0	0	0	2	1 Butterfly 1 spider	
H5 T7	26.26634	31.86983	270	Thicket		0	0	0	2	0	1	Moth	
H5 T8	26.27643	31.86693	287	Thicket		0	0	0	3	5	0		
H5 T9	26.28386	31.85914	280	Thicket		0	0	0	2	0	0		
H5 T10	26.28090	31.85249	286	Thicket		0	0	0	7	0	0	Trap near water hole	
H5 T11	26.28189	31.88320	298	Woodland		0	0	0	8	0	0		
H5 T12	26.28317	31.88704	283	Thicket		0	0	0	7	0	2	Trap inside small dried river bed (1 beetle & mosquito)	

H5 T13	26.28306	31.89531	267	Thicket		0	0	0	3	0	1	Grasshopper and moth
H5 T14	26.31500	31.88289	315	Woodland		0	0	0	0	0	4	2 ants and 2 butterflies
H5 T15	26.31254	31.88876	303	Thicket		0	0	0	15	0	2	Houseflies
H5 T16	26.26218	31.89823	267	Thicket		0	0	0	3	2	1	Butterfly
H5 T17	26.24951	31.90253	286	Thicket		0	0	0	4	1	0	
						SAMPLING OF TRAPS DAY 2					25th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H5 T1	26.24951	31.87509	274	Thicket		0	0	0	1	0	2	1 spider 1 housefly
H5 T2	26.24521	31.87503	267	Thicket		0	0	0	0	0	5	1 snail 3 ants 1 butterfly
H5 T3	26.23599	31.87455	252	Thicket		0	0	0	2	1	2	Spider and grasshopper
H5 T4	26.22680	31.87426	277	Thicket		0	0	0	0	0	2	1 spider and 1 ant
H5 T5	26.21714	31.87423	275	Thicket		0	0	0	2	1	1	Beetle
H5 T6	26.26150	31.81390	283	Thicket		0	0	0	1	0	0	
H5 T7	26.26634	31.86983	270	Thicket		0	0	0	2	1	2	Housefly and ant
H5 T8	26.27643	31.86693	287	Thicket		0	0	0	0	1	3	Dung beetles
H5 T9	26.28386	31.85914	280	Thicket		0	0	0	0	1	1	Dung beetle
H5 T10	26.28090	31.85249	286	Thicket		0	0	0	2	0	0	
H5 T11	26.28189	31.88320	298	Woodland		0	0	0	2	0	3	2 houseflies and 1 grasshopper
H5 T12	26.28317	31.88704	283	Thicket		0	0	0	3	1	0	
H5 T13	26.28306	31.89531	267	Thicket		0	0	0	9	1	0	
H5 T14	26.31500	31.88289	315	Woodland		0	0	0	0	0	3	2 butterflies and 1 housefly
H5 T15	26.31254	31.88876	303	Thicket		0	0	0	7	0	1	Butterfly
H5 T16	26.26218	31.89823	267	Thicket		0	0	0	3	0	1	Wasp
H5 T17	26.24951	31.90253	286	Thicket		0	0	0	1	0	2	Spider and ant
						SAMPLING OF TRAPS DAY 3					26th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H5 T1	26.24951	31.87509	274	Thicket		0	0	0	0	0	3	Spider mosquito and butterfly
H5 T2	26.24521	31.87503	267	Thicket		0	0	0	0	0	0	
H5 T3	26.23599	31.87455	252	Thicket		0	0	0	2	1	1	Butterfly
H5 T4	26.22680	31.87426	277	Thicket		0	0	0	0	0	1	Spider
H5 T5	26.21714	31.87423	275	Thicket		0	0	0	0	2	1	Housefly
H5 T6	26.26150	31.81390	283	Thicket		0	0	0	0	0	0	
H5 T7	26.26634	31.86983	270	Thicket		0	0	0	2	0	2	Bettles
H5 T8	26.27643	31.86693	287	Thicket		0	0	0	1	0	3	Dung beetles
H5 T9	26.28386	31.85914	280	Thicket		0	0	0	2	1	2	Butterfly and moth
H5 T10	26.28090	31.85249	286	Thicket		0	0	0	1	0	0	
H5 T11	26.28189	31.88320	298	Woodland		0	0	0	5	1	4	Houseflies
H5 T12	26.28317	31.88704	283	Thicket		0	0	0	5	0	1	Moth

H5 T13	26.28306	31.89531	267	Thicket		0	0	0	3	1	1	Grasshopper	
H5 T14	26.31500	31.88289	315	Woodland		0	0	0	2	2	2	Ants	
H5 T15	26.31254	31.88876	303	Thicket		0	0	0	16	0	0		
H5 T16	26.26218	31.89823	267	Thicket		0	0	0	2	1	1	Wasp	
H5 T17	26.24951	31.90253	286	Thicket		0	0	0	2	3	1	Housefly	
Grid ID.	I 3			UTM Zone	36			Date	26th April 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				27th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Hilly Terrain and Valleys	
I 3 T 01	26.08756	31.99558	219	Thicket		0	0	0	50	1	7	Houseflies	
I 3 T02	26.08492	31.99424	218	Thicket		0	0	0	62	0	26	Houseflies	
I 3 T03	26.08440	31.99221	237	Thicket		0	0	0	0	0	7	Houseflies	
I 3 T04	26.08196	31.99018	246	Grassland		0	0	0	7	1	14	Houseflies	
I 3 T05	26.08046	31.98812	249	Grassland		0	0	0	5	0	1	Tampered with	
I 3 T06	26.03840	31.98334	403	Thicket		0	0	0	4	0	6	Houseflies	
I 3 T07	26.03419	31.97894	394	Thicket		0	0	0	11	0	16	Houseflies	
I 3 T08	26.03059	31.97252	391	Thicket		0	0	0	19	0	22	Houseflies	
						SAMPLING OF TRAPS DAY 2					28th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I 3 T 01	26.08756	31.99558	219	Thicket		0	0	0	8	1	5	Houseflies	
I 3 T02	26.08492	31.99424	218	Thicket		0	0	0	8	0	10	Houseflies	
I 3 T03	26.08440	31.99221	237	Thicket		0	0	0	0	0	0	Houseflies	
I 3 T04	26.08196	31.99018	246	Grassland		0	0	0	1	0	1	Houseflies	
I 3 T05	26.08046	31.98812	249	Grassland		0	0	0	42	0	5	Houseflies	
I 3 T06	26.03840	31.98334	403	Thicket		0	0	0	1	0	3	1 wasp and houseflies	
I 3 T07	26.03419	31.97894	394	Thicket		0	0	0	3	0	20	Houseflies	
I 3 T08	26.03059	31.97252	391	Thicket		0	0	0	19	0	26	Houseflies	
						SAMPLING OF TRAPS DAY 3					29th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I 3 T 01	26.08756	31.99558	219	Thicket		0	0	0	1	0	4	Houseflies	

I 3 T02	26.08492	31.99424	218	Thicket		0	0	0	8	0	8	Houseflies	
I 3 T03	26.08440	31.99221	237	Thicket		0	0	0	0	1	0		
I 3 T04	26.08196	31.99018	246	Grassland		0	0	0	1	0	0		
I 3 T05	26.08046	31.98812	249	Grassland		0	0	0	8	0	8	Houseflies	
I 3 T06	26.03840	31.98334	403	Thicket		0	0	0	3	0	4	Houseflies	
I 3 T07	26.03419	31.97894	394	Thicket		0	0	0	6	0	8	Houseflies	
I 3 T08	26.03059	31.97252	391	Thicket		0	0	0	8	0	4	Houseflies	
Grid ID.	I13			UTM Zone	36			Date	18th April 2008				
Team	1			Data officer J. Andoke									
No.						GRID IS IN NSOKO AREA							
							SAMPLING OF DAY 1				19th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Lantena Vegetation	
I13 T1	27.04761	31.97810	196	Thicket		0	0	0	3	0	1	Housefly	
I13 T2	27.04465	31.97706	175	Thicket		0	0	0	4	0	6	Houseflies	
I13 T3	27.05476	31.97499	209	Thicket		0	0	0	3	0	0		
I13 T4	27.05824	31.97637	247	Thicket		0	0	0	0	0	0		
I13 T5	27.06311	31.97786	256	Thicket		0	0	0	1	1	6	Houseflies	
I13 T6	27.06970	31.97266	248	Thicket		0	0	0	3	0	4		
I13 T7	27.07718	31.96824	250	Woodland		0	0	0	2	0	0		
I13 T8	27.09513	31.96663	272	Thicket		0	0	0	1	0	11	Houseflies	
I13 T9	27.10137	31.96596	285	Thicket		0	0	0	1	1	7	Houseflies	
I13 T10	27.11933	31.96127	292	Thicket		0	0	0	0	0	0	A lot of human activity around the trap	
						SAMPLING OF TRAPS DAY 2					20th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I13 T1	27.04761	31.97810	196	Thicket		0	0	0	27	2	10		
I13 T2	27.04465	31.97706	175	Thicket		0	0	0	5	7	8	Butterflies	
I13 T3	27.05476	31.97499	209	Thicket		0	0	0	2	1	2	Wasps	
I13 T4	27.05824	31.97637	247	Thicket		0	0	0	6	2	21		
I13 T5	27.06311	31.97786	256	Thicket		0	0	0	15	1	11	Houseflies	
I13 T6	27.06970	31.97266	248	Thicket		0	0	0	7	2	2	Houseflies	
I13 T7	27.07718	31.96824	250	Woodland		0	0	0	3	0	2	Bees and wasps	
I13 T8	27.09513	31.96663	272	Thicket		0	0	0	2	0	12	Houseflies	
I13 T9	27.10137	31.96596	285	Thicket		0	0	0	4	0	4	Houseflies	
I13 T10	27.11933	31.96127	292	Thicket		0	0	0	2	0	12	Houseflies	

						SAMPLING OF TRAPS DAY 3					21st April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
I13 T1	27.04761	31.97810	196	Thicket		0	0	0	1	0	2	Houseflies
I13 T2	27.04465	31.97706	175	Thicket		0	0	0	11	0	2	Houseflies
I13 T3	27.05476	31.97499	209	Thicket		0	0	0	0	0	1	Houseflies
I13 T4	27.05824	31.97637	247	Thicket		0	0	0	0	1	4	Houseflies
I13 T5	27.06311	31.97786	256	Thicket		0	0	0	6	0	6	Houseflies
I13 T6	27.06970	31.97266	248	Thicket		0	0	0	3	0	2	Houseflies
I13 T7	27.07718	31.96824	250	Woodland		0	0	0	0	0	2	Housefly and butterfly
I13 T8	27.09513	31.96663	272	Thicket		0	0	0	3	0	1	Mosquito
I13 T9	27.10137	31.96596	285	Thicket		0	0	0	0	0	2	Houseflies
I13 T10	27.11933	31.96127	292	Thicket		0	0	0	3	0	2	Houseflies
Grid ID.	H15			UTM Zone	36			Date	13th and 14th April 2008			
Team	1			Data officer J. Andoke								
No.												
							SAMPLING OF DAY 1				15th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H15 T1	27.30525	31.92238	148	Thicket		0	0	0	3	3	8	Other flies - Houseflies
H15 T2	27.31496	31.89943	168	Grassland		0	0	0	4	2	4	Houseflies
H15 T3	27.25702	31.88165	191	Thicket		0	0	0	0	0	3	Houseflies and bees
H15 T4	27.24981	31.88175	187	Thicket		0	0	0	0	0	4	Houseflies
H15 T5	27.24010	31.88216	187	Thicket		0	0	0	0	0	24	Houseflies
H15 T6	27.23680	31.88498	187	Thicket		0	0	0	0	0	13	Houseflies
H15 T7	27.23630	31.90886	173	Woodland		0	0	0	0	0	0	
H15 T8	27.23862	31.91540	166	Thicket		0	0	0	0	0	15	Houseflies
H15 T9	27.24121	31.92242	162	Grassland		0	0	0	0	0	56	Houseflies
H15 T10	27.23359	31.90379	183	Woodland		0	0	0	6	0	4	Houseflies
H15 T11	27.22286	31.90555	195	Woodland		0	0	0	0	0	9	Houseflies
Note	No urine used only acetone											
						SAMPLING OF TRAPS DAY 2					16th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		

H15 T1	27.30525	31.92238	148	Thicket		0	0	0	1	2	4	Other flies - Houseflies
H15 T2	27.31496	31.89943	168	Grassland		0	0	0	2	0	1	Housefly
H15 T3	27.25702	31.88165	191	Thicket		0	0	0	0	0	1	Housefly
H15 T4	27.24981	31.88175	187	Thicket		0	0	0	1	0	2	Houseflies
H15 T5	27.24010	31.88216	187	Thicket		0	0	0	2	1	10	Houseflies
H15 T6	27.23680	31.88498	187	Thicket		0	0	0	0	0	9	Houseflies
H15 T7	27.23630	31.90886	173	Woodland		0	0	0	2	0	4	Houseflies and ants on one side of the cone
H15 T8	27.23862	31.91540	166	Thicket		0	0	0	2	0	10	Houseflies and 1 butterfly
H15 T9	27.24121	31.92242	162	Grassland		0	0	0	11	3	34	Houseflies
H15 T10	27.23359	31.90379	183	Woodland		0	0	0	0	1	4	Houseflies
H15 T11	27.22286	31.90555	195	Woodland		0	0	0	9	0	12	Houseflies
						SAMPLING OF TRAPS DAY 3					17th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
H15 T1	27.30525	31.92238	148	Thicket		0	0	0	4	3	3	
H15 T2	27.31496	31.89943	168	Grassland		0	0	0	0	5	17	Other flies - Houseflies
H15 T3	27.25702	31.88165	191	Thicket		0	0	0	0	0	3	Houseflies
H15 T4	27.24981	31.88175	187	Thicket		0	0	0	1	0	11	Houseflies
H15 T5	27.24010	31.88216	194	Thicket		0	0	0	2	1	27	Houseflies
H15 T6	27.23680	31.88498	187	Thicket		0	0	0	0	0	43	Houseflies
H15 T7	27.23630	31.90886	173	Woodland		0	0	0	0	2	9	Houseflies
H15 T8	27.23862	31.91540	166	Thicket		0	0	0	3	4	15	
H15 T9	27.24121	31.92242	162	Grassland		0	0	0	2	0	26	Houseflies
H15 T10	27.23359	31.90379	183	Woodland		0	0	0	0	1	6	Houseflies
H15 T11	27.22286	31.90555	195	Woodland		0	0	0	23	0	21	Houseflies
Grid ID.	I15			UTM Zone	36			Date	13th and 14th April 2008			
Team	1			Data officer J. Andoke								
No.												
							SAMPLING OF DAY 1				15th April 2008	
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies			
No.	Coordinates	Coordinates	(m)	Type								
					Species	♂	♀	Total	Family		Others	Remarks
									Stomoxys	Tabanids		
I15 T1	27.29126	31.94336	147	Swampy		0	0	0	8	2	8	Others - Wasps, moths and houseflies
I15 T2	27.24138	31.93537	161	Grassland		0	0	0	0	0	20	Houseflies and bees
I15 T3	27.24097	31.94081	158	Thicket		0	0	0	0	0	30	Houseflies
I15 T4	27.24263	31.94657	163	Grassland		0	0	0	0	0	20	1 moth and houseflies cattle grazing around
I15 T5	27.24311	31.95741	204	Thicket		0	0	0	0	0	10	Houseflies

I15 T6	27.24215	31.96490	217	Thicket		0	0	0	1	0	7	Houseflies	
I15 T7	27.24063	31.96966	256	Woodland		0	0	0	5	0	8	Houseflies	
Note	No urine used only acetone												
						SAMPLING OF TRAPS DAY 2					16th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I15 T1	27.29126	31.94336	147	Swampy		0	0	0	3	1	5	Others - Wasps, moths and houseflies	
I15 T2	27.24138	31.93537	161	Grassland		0	0	0	3	0	12	1 wasp and houseflies	
I15 T3	27.24097	31.94081	158	Thicket		0	0	0	1	3	6	Houseflies	
I15 T4	27.24263	31.94657	163	Grassland		0	0	0	11	2	19	Houseflies	
I15 T5	27.24311	31.95741	204	Thicket		0	0	0	9	0	9	Houseflies	
I15 T6	27.24215	31.96490	217	Thicket		0	0	0	3	1	3	Houseflies	
I15 T7	27.24063	31.96966	256	Woodland		0	0	0	2	2	1		
						SAMPLING OF TRAPS DAY 3					17th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I15 T1	27.29126	31.94336	147	Swampy		0	0	0	9	12	9	Houseflies	
I15 T2	27.24138	31.93537	161	Grassland		0	0	0	12	5	10	Houseflies	
I15 T3	27.24097	31.94081	158	Thicket		0	0	0	5	4	0		
I15 T4	27.24263	31.94657	163	Grassland		0	0	0	15	10	49	Houseflies	
I15 T5	27.24311	31.95741	204	Thicket		0	0	0	14	5	21	Houseflies	
I15 T6	27.24215	31.96490	217	Thicket		0	0	0	2	2	1	Housefly	
I15 T7	27.24063	31.96966	256	Woodland		0	0	0	0	2	0		
Grid ID.	J8			UTM Zone	36			Date	19th and 20th April 2008				
Team	1			Data officer J. Andoke									
No.													
							SAMPLING OF DAY 1				21st April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J8 T1	26.55371	32.13139	402	Grassland		0	0	0	8	0	10	At the border line at Vet Cordon Camp	
J8 T2	26.55819	32.12471	438	Grassland		0	0	0	35	0	1	Housefly	
J8 T3	26.55950	32.12010	437	Grassland		0	0	0	6	0	3	Houseflies	

J8 T4	26.55782	32.11505	427	Thicket		0	0	0	0	0	2	Houseflies	
J8 T5	26.56202	32.11106	383	Thicket		0	0	0	0	0	3	Houseflies	
J8 T6	26.56543	32.10817	419	Thicket		0	0	0	2	0	0		
J8 T7	26.56999	32.10035	409	Thicket		0	0	0	3	0	1	Wasp	
J8 T8	26.59646	32.08409	461	Thicket		0	0	0	15	0	2	Disturbed by the cow; Houseflies	
						SAMPLING OF TRAPS DAY 2					22nd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J8 T1	26.55371	32.13139	402	Grassland		0	0	0	1	1	2	Wasp & housefly; destroyed by cows & replaced	
J8 T2	26.55819	32.12471	438	Grassland		0	0	0	25	0	2	Destroyed by wind	
J8 T3	26.55950	32.12010	437	Grassland		0	0	0	4	0	0		
J8 T4	26.55782	32.11505	427	Thicket		0	0	0	1	0	2	Trap disturbed by wind; wasps and housefly	
J8 T5	26.56202	32.11106	383	Thicket		0	0	0	0	0	0	Disturbed by wind	
J8 T6	26.56543	32.10817	419	Thicket		0	0	0	3	0	0	Disturbed by wind	
J8 T7	26.56999	32.10035	409	Thicket		0	0	0	1	0	0	Disturbed by wind	
J8 T8	26.59646	32.08409	461	Thicket		0	0	0	0	1	1	Destroyed by cows and replaced; Housefly	
						SAMPLING OF TRAPS DAY 3					23rd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J8 T1	26.55371	32.13139	402	Grassland		0	0	0	3	0	1	Housefly	
J8 T2	26.55819	32.12471	438	Grassland		0	0	0	1	0	0		
J8 T3	26.55950	32.12010	437	Grassland		0	0	0	0	0	0		
J8 T4	26.55782	32.11505	427	Thicket		0	0	0	0	0	0		
J8 T5	26.56202	32.11106	383	Thicket		0	0	0	0	0	0		
J8 T6	26.56543	32.10817	419	Thicket		0	0	0	0	0	0		
J8 T7	26.56999	32.10035	409	Thicket		0	0	0	0	0	0		
J8 T8	26.59646	32.08409	461	Thicket		0	0	0	0	0	0		
Grid ID.	I5			UTM Zone	36			Date	4th May 2008				
Team	2		GRID IN MLAWULA NATURE RESERVE					Fax 268 3838885			HQ 4161875		
No.													
							SAMPLING OF DAY 1				5th May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				

No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
		TEAM 1 (John Andoke)											
I5 T21	26.25688	31.97998	186	Grassland		0	0	0	3	0	6		
I5 T22	26.25229	31.98171	189	Thicket		0	0	0	2	1	14		
I5 T23	26.24810	31.98239	193	Woodland		0	0	0	1	0	0		
I5 T24	26.24638	31.97845	215	Thicket		0	0	0	0	0	2		
I5 T25	26.25113	31.97655	227	Thicket		0	0	0	0	0	2		
I5 T26	26.24298	31.98231	203	Thicket		0	0	0	2	0	1		
I5 T27	26.23861	31.98558	217	Thicket		0	0	0	0	0	1		
I5 T28	26.23448	31.98811	205	Thicket		0	0	0	3	1	1		
I5 T29	26.22978	31.99058	198	Thicket		0	0	0	1	0	0		
I5 T30	26.22597	31.99273	186	Thicket		0	0	0	1	1	1		
I5 T31	26.21964	31.99643	167	Thicket		0	0	0	1	0	4		
I5 T32	26.21641	31.99896	161	Thicket		0	0	0	0	1	2		
I5 T33	26.21252	32.00153	157	Thicket		0	0	0	0	0	0		
I5 T34	26.20797	32.00334	161	Woodland		0	0	0	1	0	0		
I5 T35	26.20269	32.00448	155	Woodland		0	0	0	0	2	4		
I5 T36	26.20042	32.00139	145	Thicket		0	0	0	0	1	0		
I5 T37	26.19847	32.00528	163	Thicket		0	0	0	0	1	0		
I5 T38	26.19118	32.00483	144	Thicket		0	0	0	0	1	0		
		TEAM 2 (Peter Muasa)											
I5 T52	26.30015	31.99248	356	Woodland		0	0	0	2	0	0		
I5 T53	26.29699	31.99589	320	Woodland		0	0	0	1	0	0		
I5 T54	26.29440	31.99726	304	Woodland		0	0	0	1	0	0		
I5 T55	26.29181	31.99599	287	Gr/ Thicket		0	0	0	6	0	2		
I5 T56	26.28962	31.99358	282	Woodland		0	0	0	3	0	0		
I5 T57	26.28703	31.99149	280	Thicket		0	0	0	1	0	0		
I5 T58	26.28421	31.98877	278	Woodland		0	0	0	0	0	0		
I5 T59	26.28200	31.99066	280	Woodland	*G.austeni*	0	1	1	0	1	0		
I5 T60	26.27927	31.99246	264	Woodland		0	0	0	0	0	0		
I5 T61	26.27657	31.99344	248	Woodland		0	0	0	0	0	0		
I5 T62	26.27286	31.99399	230	Woodland	*G.austeni*	0	1	1	2	0	0	Trap along a stream	
I5 T63	26.27021	31.99144	223	Woodland		0	0	0	7	2	0		
I5 T64	26.26779	31.98893	217	Woodland		0	0	0	2	0	0		
I5 T65	26.26231	31.98556	210	Thicket		0	0	0	1	0	0		
I5 T66	26.25764	31.98353	212	Woodland		0	0	0	1	0	0		
I5 T67	26.25357	31.98434	199	Woodland		0	0	0	0	0	0		
I5 T68	26.24909	31.98554	187	Woodland	*G.austeni*	1	0	1	3	0	0		
I5 T69	26.24537	31.98805	185	Thicket		0	0	0	8	0	0		
I5 T70	26.24089	31.99088	175	Thicket		0	0	0	5	0	0		
I5 T71	26.21892	32.00155	164	Woodland		0	0	0	0	0	0		
		TEAM 0 (R.K.SAINI)											
I5 T83	26.21346	31.99314	168	Woodland		0	0	0	0	2	4	Trap close to railway line	
I5 T84	26.21708	31.99342	179	Thicket		0	0	0	0	0	0	Trap close to railway line	

I5 T85	26.11400	31.99497	191	Thicket		0	0	0	1	0	1	Trap close to railway line	
I5 T86	26.20977	31.99611	184	Thicket		0	0	0	1	0	1	Trap close to railway line	
I5 T87	26.20220	31.99275	180	Thicket		0	0	0	1	0	0	Trap close to railway line	
I5 T88	26.19107	32.00146	143	Thicket		0	0	0	1	1	1	Trap close to Mlawula river	
I5 T89	26.16945	32.08202	86	Thicket		0	0	0	20	1	1	Trap near Mbuluzi river in Grid J4	
I5 T90	26.16937	32.06854	92	Thicket		0	0	0	20	1	1	Trap near Mbuluzi river in Grid J4	
I5 T91	26.17478	32.06448	104	Thicket		0	0	0	1	1	0	Trap near Mbuluzi river in Grid J4	
I5 T92	26.17951	32.05550	104	Thicket		0	0	0	3	0	1	Trap near Mbuluzi river in Grid J4	
I5 T93	26.18002	32.04941	111	Thicket		0	0	0	1	1	1	Trap near Mbuluzi river in Grid J4	
I5 T94	26.17783	32.04235	124	Thicket		0	0	0	1	0	2	Trap near Mbuluzi river in Grid J4	
I5 T95	26.17905	32.03159	137	Thicket		0	0	0	1	1	2	Trap near Mbuluzi river in Grid J4	
I5 T96	26.17710	32.01901	152	Thicket		0	0	0	0	0	0	Trap near Mbuluzi river in Grid J4	
I5 T97	26.18261	32.01300	192	Thicket		0	0	0	0	0	2	Trap near Mbuluzi river in Grid J4	
								SAMPLING OF DAY 2			6th May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
	TEAM 1 (John Andoke)												
I5 T21	26.25688	31.97998	186	Grassland		0	0	0	2	0	6		
I5 T22	26.25229	31.98171	189	Thicket		0	0	0	2	0	14		
I5 T23	26.24810	31.98239	193	Woodland		0	0	0	0	0	0		
I5 T24	26.24638	31.97845	215	Thicket		0	0	0	0	0	1		
I5 T25	26.25113	31.97655	227	Thicket		0	0	0	0	0	1		
I5 T26	26.24298	31.98231	203	Thicket		0	0	0	2	0	0		
I5 T27	26.23861	31.98558	217	Thicket		0	0	0	0	0	0		
I5 T28	26.23448	31.98811	205	Thicket		0	0	0	2	0	0		
I5 T29	26.22978	31.99058	198	Thicket		0	0	0	0	0	0		
I5 T30	26.22597	31.99273	186	Thicket		0	0	0	1	1	0		
I5 T31	26.21964	31.99643	167	Thicket		0	0	0	1	0	2		
I5 T32	26.21641	31.99896	161	Thicket		0	0	0	0	0	1		
I5 T33	26.21252	32.00153	157	Thicket		0	0	0	0	0	0		
I5 T34	26.20797	32.00334	161	Woodland		0	0	0	1	0	0		
I5 T35	26.20269	32.00448	155	Woodland		0	0	0	0	1	4		
I5 T36	26.20042	32.00139	145	Thicket		0	0	0	0	0	0		
I5 T37	26.19847	32.00528	163	Thicket		0	0	0	0	1	0		
I5 T38	26.19118	32.00483	144	Thicket		0	0	0	0	0	0		
		TEAM 2 (Peter Muasa)											
I5 T52	26.30015	31.99248	356	Woodland		0	0	0	2	0	0		
I5 T53	26.29699	31.99589	320	Woodland		0	0	0	2	0	0		
I5 T54	26.29440	31.99726	304	Woodland		0	0	0	2	0	0		
I5 T55	26.29181	31.99599	287	Gr/ Thicket		0	0	0	5	0	3		
I5 T56	26.28962	31.99358	282	Woodland		0	0	0	3	0	0		
I5 T57	26.28703	31.99149	280	Thicket		0	0	0	0	0	0		

I5 T58	26.28421	31.98877	278	Woodland		0	0	0	0	0	0		
I5 T59	26.28200	31.99066	280	Woodland		0	0	0	0	0	0		
I5 T60	26.27927	31.99246	264	Woodland		0	0	0	0	0	0		
I5 T61	26.27657	31.99344	248	Woodland		0	0	0	0	0	0		
I5 T62	26.27286	31.99399	230	Woodland	*G.austeni*	0	1	1	3	0	0		
I5 T63	26.27021	31.99144	223	Woodland		0	0	0	5	1	0		
I5 T64	26.26779	31.98893	217	Woodland		0	0	0	3	0	0		
I5 T65	26.26231	31.98556	210	Thicket		0	0	0	0	0	0		
I5 T66	26.25764	31.98353	212	Woodland		0	0	0	1	0	0		
I5 T67	26.25357	31.98434	199	Woodland		0	0	0	0	0	0		
I5 T68	26.24909	31.98554	187	Woodland		0	0	0	3	0	0		
I5 T69	26.24537	31.98805	185	Thicket		0	0	0	9	0	0		
I5 T70	26.24089	31.99088	175	Thicket		0	0	0	6	1	0		
I5 T71	26.21892	32.00155	164	Woodland		0	0	0	1	1	0		
		TEAM 0 (R.K.SAINI)											
I5 T83	26.21346	31.99314	168	Woodland		0	0	0	0	1	3		
I5 T84	26.21708	31.99342	179	Thicket	*G.austeni*	0	1	1	0	0	0		
I5 T85	26.11400	31.99497	191	Thicket		0	0	0	1	0	0		
I5 T86	26.20977	31.99611	184	Thicket		0	0	0	1	0	0		
I5 T87	26.20220	31.99275	180	Thicket		0	0	0	1	0	0		
I5 T88	26.19107	32.00146	143	Thicket		0	0	0	21	1	1		
I5 T89	26.16945	32.08202	86	Thicket		0	0	0	20	0	0		
I5 T90	26.16937	32.06854	92	Thicket		0	0	0	1	1	0		
I5 T91	26.17478	32.06448	104	Thicket		0	0	0	2	0	0		
I5 T92	26.17951	32.05550	104	Thicket		0	0	0	0	0	0		
I5 T93	26.18002	32.04941	111	Thicket		0	0	0	1	0	1		
I5 T94	26.17783	32.04235	124	Thicket		0	0	0	1	0	1		
I5 T95	26.17905	32.03159	137	Thicket		0	0	0	0	0	0		
I5 T96	26.17710	32.01901	152	Thicket		0	0	0	0	0	1		
I5 T97	26.18261	32.01300	192	Thicket		0	0	0	0	0	1		
								SAMPLING OF DAY 3			7th May 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
	TEAM 1 (John Andoke)												
I5 T21	26.25688	31.97998	186	Grassland		0	0	0	1	1	8		
I5 T22	26.25229	31.98171	189	Thicket		0	0	0	1	0	2		
I5 T23	26.24810	31.98239	193	Woodland		0	0	0	0	0	1		
I5 T24	26.24638	31.97845	215	Thicket		0	0	0	0	0	0		
I5 T25	26.25113	31.97655	227	Thicket		0	0	0	2	0	2		
I5 T26	26.24298	31.98231	203	Thicket	*G. austeni*	0	1	1	0	0	1		
I5 T27	26.23861	31.98558	217	Thicket		0	0	0	0	0	1		
I5 T28	26.23448	31.98811	205	Thicket		0	21	0	1	0	0		

I5 T29	26.22978	31.99058	198	Thicket		0	0	0	0	0	0		
I5 T30	26.22597	31.99273	186	Thicket		0	0	0	1	0	0		
I5 T31	26.21964	31.99643	167	Thicket		0	0	0	0	0	2		
I5 T32	26.21641	31.99896	161	Thicket		0	0	0	0	0	1		
I5 T33	26.21252	32.00153	157	Thicket		0	0	0	0	0	0		
I5 T34	26.20797	32.00334	161	Woodland		0	0	0	0	1	0		
I5 T35	26.20269	32.00448	155	Woodland		0	0	0	0	4	3		
I5 T36	26.20042	32.00139	145	Thicket		0	0	0	1	1	0		
I5 T37	26.19847	32.00528	163	Thicket		0	0	0	0	1	2		
I5 T38	26.19118	32.00483	144	Thicket		0	0	0	0	0	1		
		TEAM 2 (Peter Muasa)											
I5 T52	26.30015	31.99248	356	Woodland		0	0	0	3	0	0		
I5 T53	26.29699	31.99589	320	Woodland		0	0	0	0	0	0		
I5 T54	26.29440	31.99726	304	Woodland		0	0	0	0	0	0		
I5 T55	26.29181	31.99599	287	Gr/ Thicket		0	0	0	0	0	0		
I5 T56	26.28962	31.99358	282	Woodland		0	0	0	0	0	0		
I5 T57	26.28703	31.99149	280	Thicket		0	0	0	1	0	0		
I5 T58	26.28421	31.98877	278	Woodland		0	0	0	0	0	1		
I5 T59	26.28200	31.99066	280	Woodland		0	0	0	0	0	0		
I5 T60	26.27927	31.99246	264	Woodland		0	0	0	0	0	0		
I5 T61	26.27657	31.99344	248	Woodland		0	0	0	0	0	0		
I5 T62	26.27286	31.99399	230	Woodland		0	0	0	1	0	1		
I5 T63	26.27021	31.99144	223	Woodland		0	0	0	1	0	0		
I5 T64	26.26779	31.98893	217	Woodland		0	0	0	0	0	0		
I5 T65	26.26231	31.98556	210	Thicket		0	0	0	2	0	0		
I5 T66	26.25764	31.98353	212	Woodland		0	0	0	5	0	0		
I5 T67	26.25357	31.98434	199	Woodland		0	0	0	7	0	0		
I5 T68	26.24909	31.98554	187	Woodland		0	0	0	0	0	0		
I5 T69	26.24537	31.98805	185	Thicket		0	0	0	4	1	0		
I5 T70	26.24089	31.99088	175	Thicket		0	0	0	1	3	0		
I5 T71	26.21892	32.00155	164	Woodland		0	0	0	0	0	0		
		TEAM 0 (R.K.SAINI)											
I5 T83	26.21346	31.99314	168	Woodland		0	0	0	2	2	0		
I5 T84	26.21708	31.99342	179	Thicket		0	0	0	0	0	0		
I5 T85	26.11400	31.99497	191	Thicket		0	0	0	0	0	0		
I5 T86	26.20977	31.99611	184	Thicket		0	0	0	0	1	0		
I5 T87	26.20220	31.99275	180	Thicket		0	0	0	2	0	0		
I5 T88	26.19107	32.00146	143	Thicket		0	0	0	1	0	2		
I5 T89	26.16945	32.08202	86	Thicket		0	0	0	2	4	20	Ants	
I5 T90	26.16937	32.06854	92	Thicket		0	0	0	10	0	1		
I5 T91	26.17478	32.06448	104	Thicket		0	0	0	1	0	2		
I5 T92	26.17951	32.05550	104	Thicket		0	0	0	3	0	2		
I5 T93	26.18002	32.04941	111	Thicket		0	0	0	0	1	0		
I5 T94	26.17783	32.04235	124	Thicket		0	0	0	2	0	1		
I5 T95	26.17905	32.03159	137	Thicket		0	0	0	5	2	0		
I5 T96	26.17710	32.01901	152	Thicket		0	0	0	1	1	1		
I5 T97	26.18261	32.01300	192	Thicket		0	0	0	0	0	0		

Grid ID.	I6			UTM Zone	36			Date	22nd April 2008				
Team	2			Data Officer P. Muasa									
No.													
							SAMPLING OF DAY 1				23rd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Centroid is in the King's Farm	
I6 T1	26.39283	31.95542	658	Thicket		0	0	0	4	0	0		
I6 T2	26.39158	31.96427	648	Thicket		0	0	0	2	0	0		
I6 T3	26.38541	31.97110	624	Thicket		0	0	0	0	0	0		
I6 T4	26.37863	31.97840	552	Thicket		0	0	0	0	0	0	Near the river with bush and big trees	
I6 T5	26.37405	31.98943	608	Thicket		0	0	0	2	0	0		
I6 T6	26.36556	31.98816	634	Thicket		0	0	0	0	0	0		
I6 T7	26.37529	32.00036	600	Thicket		0	0	0	0	0	0		
I6 T8	26.35104	31.96260	660	Thicket		0	0	0	16	0	0		
I6 T9	26.35491	31.96557	630	Thicket		0	0	0	0	0	0	NGO Ranch trap near dam	
I6 T10	26.36212	31.96244	644	Thicket		0	0	0	0	0	0		
I6 T11	26.36872	31.96553	621	Thicket		0	0	0	0	0	2	Butterflies	
								SAMPLING OF DAY 2			24th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I6 T1	26.39283	31.95542	658	Thicket		0	0	0	0	0	0		
I6 T2	26.39158	31.96427	648	Thicket		0	0	0	0	0	1		
I6 T3	26.38541	31.97110	624	Thicket		0	0	0	0	0	0		
I6 T4	26.37863	31.97840	552	Thicket		0	0	0	0	0	0		
I6 T5	26.37405	31.98943	608	Thicket		0	0	0	0	0	0		
I6 T6	26.36556	31.98816	634	Thicket		0	0	0	0	0	0		
I6 T7	26.37529	32.00036	600	Thicket		0	0	0	0	0	0		
I6 T8	26.35104	31.96260	660	Thicket		0	0	0	0	1	0		
I6 T9	26.35491	31.96557	630	Thicket		0	0	0	1	0	0		
I6 T10	26.36212	31.96244	644	Thicket		0	0	0	1	0	0		
I6 T11	26.36872	31.96553	621	Thicket		0	0	0	0	0	0		
								SAMPLING OF DAY 3			25thApril 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				

No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
I6 T1	26.39283	31.95542	658	Thicket		0	0	0	0	0	0		
I6 T2	26.39158	31.96427	648	Thicket		0	0	0	0	0	0		
I6 T3	26.38541	31.97110	624	Thicket		0	0	0	0	0	0		
I6 T4	26.37863	31.97840	552	Thicket		0	0	0	0	0	0		
I6 T5	26.37405	31.98943	608	Thicket		0	0	0	2	0	0		
I6 T6	26.36556	31.98816	634	Thicket		0	0	0	0	0	0		
I6 T7	26.37529	32.00036	600	Thicket		0	0	0	0	0	0		
I6 T8	26.35104	31.96260	660	Thicket		0	0	0	0	0	0		
I6 T9	26.35491	31.96557	630	Thicket		0	0	0	0	0	0		
I6 T10	26.36212	31.96244	644	Thicket		0	0	0	0	0	0		
I6 T11	26.36872	31.96553	621	Thicket		0	0	0	0	0	0		
Grid ID.	J3			UTM Zone	36			Date	27th April 2008				
Team	2			GRID IN SHEWULA MILITARY CAMP 1									
No.				Data Officer P. Muasa									
							SAMPLING OF DAY 1				28th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		West of the grid small scale farmers	
J3 T1	26.06315	32.04302	494	Thicket		0	0	0	5	0	0		
J3 T2	26.05477	32.06381	455	Woodland		0	0	0	0	0	0		
J3 T3	26.04687	32.06911	418	Woodland		0	0	0	0	0	0	Chewed by cows and replaced	
J3 T4	26.04933	32.07271	392	Woodland		0	0	0	10	0	0	300m to the border	
J3 T5	26.06176	32.07763	457	Thicket		0	0	0	43	0	0		
J3 T6	26.05783	32.07569	433	Woodland		0	0	0	2	0	0	Next to the Mozambique border	
								SAMPLING OF DAY 2			29th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J3 T1	26.06315	32.04302	494	Thicket		0	0	0	2	0	0		
J3 T2	26.05477	32.06381	455	Woodland		0	0	0	0	1	0		
J3 T3	26.04687	32.06911	418	Woodland		0	0	0	0	0	0	Chewed by cows and replaced	
J3 T4	26.04933	32.07271	392	Woodland		0	0	0	16	0	0	Trap found while being chewed by cows	
J3 T5	26.06176	32.07763	457	Thicket		0	0	0	43	2	0	Trap destroyed by cattle and replaced	
J3 T6	26.05783	32.07569	433	Woodland		0	0	0	3	0	0		

								SAMPLING OF DAY 3			30th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J3 T1	26.06315	32.04302	494	Thicket		0	0	0	0	0	0		
J3 T2	26.05477	32.06381	455	Woodland		0	0	0	0	0	0		
J3 T3	26.04687	32.06911	418	Woodland		0	0	0	0	0	0		
J3 T4	26.04933	32.07271	392	Woodland		0	0	0	19	0	0		
J3 T5	26.06176	32.07763	457	Thicket		0	0	0	0	0	0		
J3 T6	26.05783	32.07569	433	Woodland		0	0	0	20	0	0		
Grid ID.	J4			UTM Zone	36			Date	26th April 2008				
Team	2			GRID IN SHEWULA MILITARY CAMP 2									
No.				Data Officer P. Muasa									
							SAMPLING OF DAY 1				27th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		Grid approached from the North side Most of the grid is small scale farmers, and heavily populated, churches, schools. Deep valleys on both sides of the road	
J4 T1	26.14582	32.08716	445	Thicket		0	0	0	0	0	0		
J4 T2	26.14005	32.09231	382	Thicket		0	0	0	8	0	0		
J4 T3	26.13347	32.09683	357	Thicket		0	0	0	3	0	0		
J4 T4	26.14946	32.08864	435	Thicket		0	0	0	48	0	0		
J4 T5	26.15515	32.09281	380	Thicket		0	0	0	17	0	0		
J4 T6	26.16327	32.09501	412	Thicket		0	0	0	5	0	0		
J4 T7	26.16319	32.10343	380	Thicket		0	0	0	6	0	0	1m from Mozambique fence	
								SAMPLING OF DAY 2			28th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J4 T1	26.14582	32.08716	445	Thicket		0	0	0	0	0	0		
J4 T2	26.14005	32.09231	382	Thicket		0	0	0	9	0	0		
J4 T3	26.13347	32.09683	357	Thicket		0	0	0	3	0	0		

J4 T4	26.14946	32.08864	435	Thicket		0	0	0	48	0	0		
J4 T5	26.15515	32.09281	380	Thicket		0	0	0	47	0	0		
J4 T6	26.16327	32.09501	412	Thicket		0	0	0	6	0	0		
J4 T7	26.16319	32.10343	380	Thicket		0	0	0	8	0	0		
								SAMPLING OF DAY 3			29th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J4 T1	26.14582	32.08716	445	Thicket		0	0	0	4	0	0		
J4 T2	26.14005	32.09231	382	Thicket		0	0	0	3	0	0		
J4 T3	26.13347	32.09683	357	Thicket		0	0	0	2	0	0		
J4 T4	26.14946	32.08864	435	Thicket		0	0	0	13	0	0		
J4 T5	26.15515	32.09281	380	Thicket		0	0	0	10	0	0		
J4 T6	26.16327	32.09501	412	Thicket		0	0	0	29	0	0		
J4 T7	26.16319	32.10343	380	Thicket		0	0	0	22	0	0		
Grid ID.	J5			UTM Zone	36			Date	27th April 2008				
Team	2			MHLUMENI POST									
No.				Data Officer P. Muasa									
							SAMPLING OF DAY 1				28th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids		The grid borders Mozambique	
												East side very deep valleys along the	
												border inaccessible	
J5 T1	26.26098	32.07828	451	Grassland		0	0	0	18	0	0		
J5 T2	26.26084	32.08218	416	Wd/ Gr		0	0	0	12	0	0		
J5 T3	26.27548	32.07169	483	Grassland		0	0	0	2	0	0		
								SAMPLING OF DAY 2			29th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J5 T1	26.26098	32.07828	451	Grassland		0	0	0	4	0	0		
J5 T2	26.26084	32.08218	416	Wd/Gr		0	0	0	0	0	0		
J5 T3	26.27548	32.07169	483	Grassland		0	0	0	2	0	0		

								SAMPLING OF DAY 3			30th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J5 T1	26.26098	32.07828	451	Grassland		0	0	0	11	0	0		
J5 T2	26.26084	32.08218	416	Wd/Gr		0	0	0	3	0	0		
J5 T3	26.27548	32.07169	483	Grassland		0	0	0	0	0	0		
Grid ID.	J6			UTM Zone	36			Date	19th April 2008				
Team	2					SEMI-ARID AREA							
No.				Data Officer P. Muasa									
							SAMPLING OF DAY 1				20th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J6 T1	26.36653	32.03545	563	Thicket		0	0	0	0	0	0		
J6 T2	26.35850	32.03862	528	Thicket		0	0	0	4	0	0		
J6 T3	26.36479	32.04270	524	Thicket		0	0	0	2	0	1		
J6 T4	26.36449	32.04787	490	Thicket		0	0	0	6	0	0		
J6 T5	26.36089	32.05515	500	Thicket		0	0	0	8	0	0		
								SAMPLING OF DAY 2			21st April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J6 T1	26.36653	32.03545	563	Thicket		0	0	0	0	0	0		
J6 T2	26.35850	32.03862	528	Thicket		0	0	0	0	0	0		
J6 T3	26.36479	32.04270	524	Thicket		0	0	0	0	0	0		
J6 T4	26.36449	32.04787	490	Thicket		0	0	0	2	0	0		
J6 T5	26.36089	32.05515	500	Thicket		0	0	0	0	0	0	Affected by wind and replaced	
								SAMPLING OF DAY 3			22nd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			

J6 T1	26.36653	32.03545	563	Thicket		0	0	0	0	0	0		
J6 T2	26.35850	32.03862	528	Thicket		0	0	0	2	0	0		
J6 T3	26.36479	32.04270	524	Thicket		0	0	0	0	0	0		
J6 T4	26.36449	32.04787	490	Thicket		0	0	0	0	0	0		
J6 T5	26.36089	32.05515	500	Thicket		0	0	0	0	0	0	Destroyed by cows	
Grid ID.	J7			UTM Zone	36			Date	19th April 2008				
Team	2			GRID INSIDE MTFUMUNDE RANCH - OWNED BY MR. JOHN CARMICAEL									
No.				Data Officer P. Muasa									
							SAMPLING OF DAY 1				20th April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J7 T1	26.50306	32.05686	483	Thicket		0	0	0	0	0	0		
J7 T2	26.49583	32.06528	504	Grassland		0	0	0	0	0	0		
J7 T3	26.49118	32.08384	475	Th/ Gr		0	0	0	0	0	0	Trap near cattle crush	
J7 T4	26.48576	32.08898	498	Thicket		0	0	0	2	0	0	Trap near river valley	
J7 T5	26.47977	32.09739	487	Thicket		0	0	0	30	0	0		
J7 T6	26.47579	32.10410	466	Grassland		0	0	0	3	0	0	21/2K from Mozambique border	
								SAMPLING OF DAY 2			21st April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J7 T1	26.50306	32.05686	483	Thicket		0	0	0	0	0	0	Blown away by strong wind and replaced	
J7 T2	26.49583	32.06528	504	Grassland		0	0	0	0	0	0		
J7 T3	26.49118	32.08384	475	Th/ Gr		0	0	0	0	0	1	Spider	
J7 T4	26.48576	32.08898	498	Thicket		0	0	0	0	0	0		
J7 T5	26.47977	32.09739	487	Thicket		0	0	0	1	0	0		
J7 T6	26.47579	32.10410	466	Grassland		0	0	0	0	0	0		
					Most of the traps were disturbed by heavy wind								
								SAMPLING OF DAY 3			22nd April 2008		
Trap	Latitude(y)	Longitude(x)	Alt	Veg.		Tsetse			Biting Flies				
No.	Coordinates	Coordinates	(m)	Type									
					Species	♂	♀	Total	Family		Others	Remarks	
									Stomoxys	Tabanids			
J7 T1	26.50306	32.05686	483	Thicket		0	0	0	0	0	0		

J7 T2	26.49583	32.06528	504	Grassland		0	0	0	0	0	0	
J7 T3	26.49118	32.08384	475	Th/Gr		0	0	0	0	0	0	
J7 T4	26.48576	32.08898	498	Thicket		0	0	0	0	0	0	
J7 T5	26.47977	32.09739	487	Thicket		0	0	0	2	0	0	Trap affected by strong wind
J7 T6	26.47579	32.10410	466	Grassland		0	0	0	0	0	0	

Annex 16 Summary Data Sheet

Overall insects caught in traps deployed in various grids sampled					
		No of insects caught			
Grid No	No of Traps deployed	Tsetse Flies	Stomoxys	Tabanids	Others
B1	4	0	11	0	33
D1	2	0	8	0	9
F3	14	0	18	15	57
F8	11	0	27	0	36
F15	5	0	175	4	56
G3	7	0	13	9	31
G5	9	0	82	9	130
G6	12	0	84	4	128
G8	10	0	54	0	47
G9	9	0	138	3	17
G13	0	0	0	0	0
G14	0	0	0	0	0
G15	7	0	200	4	36
H4	13	0	47	45	205
H5	17	0	139	33	74
H13	0	0	0	0	0
H15	11	0	78	28	412
I2	0	0	0	0	0
I3	8	0	275	4	205
I13	10	0	118	18	143
I14	0	0	0	0	0
I15	7	0	103	51	248
J8	8	0	108	2	30
J9	4	0	65	2	17
E1	7	0	66	5	2
E2	8	0	62	4	4
G10	2	0	72	0	2
G11	7	0	102	3	13
H6	5	0	30	0	0
H7	9	0	24	0	2
H9	16	0	1027	13	9
H10	9	0	205	1	0
H11	4	0	31	0	1
H12	10	0	186	7	30
I4	9	0	273	13	6
I5	73	7	582	77	312
I6	11	0	30	1	3
I11	0	0	0	0	0
I12	0	0	0	0	0
J3	6	0	163	3	0
J4	7	0	291	0	0
J5	3	0	52	0	0
J6	5	0	24	0	1
J7	6	0	38	0	1

J10	7	0	39	0	1
TOTAL	**372**	**7**	**5032**	**330**	**2301**

Annex 17 GIS files and Maps produced in the CD

Annex 18a) List of Participants for the Training of National Staff
Wednesday 9th April 2008, Siteki Hotel Swaziland

NAME	AFFILIATION	CONTACT ADDRESS
Dr. Roland X. Dlamini	Deputy Director Veterinary Services MoAC	P.O.Box 162, Mbabane dlaminirol@gov.sz
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Joel M. Matse	Health Assistant Malaria Health Unit MoH	Cell: 268 6082155 P.O.Box 53, Manzini
Musa Mndzebele	Health Assistant Malaria Health Unit MoH	Cell: 268 6352601 P.O.Box 53, Manzini
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Fanyana P. Gamedze	Field Assistant Malaria Health Unit MoH	Cell: 268 6478797 P.O.Box 53, Manzini
Mtensitoli Mazibulo	Data Clerk Malaria Health Unit	Cell: 268 6088917 P.O.Box 53, Manzini
Zulisile Zulu	Malaria Health Researcher Malaria Health Unit	Cell: 268 6284153 P.O.Box 53, Manzini malariaswd@realnet.co.sz
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David Camp	Transport Assistant	World Health Organization Cell: +268 6237447 P.O.Box 903, Mbabane

Annex 18b) Capacity Building

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1: Dr. Roland X. Dlamini, Deputy Director of Veterinary Services (MoAC) opening the training workshop

2 – 5: Participants from MoAC, MoH and WHO Regional Office attending the training workshop

5: Registration desk

6 – 8: Demonstration on trap deployment

Annex 19 Programme for Tsetse Debriefing Meeting

MINISTRY OF AGRICULTURE AND COOPERATIVES
P.O. BOX 162
MBABANE
SWAZILAND

TSETSE-FLY SURVEY DEBRIEFING,
MOAC CONFERENCE ROOM
FRIDAY, 09TH MAY 2008
09-00AM

Program

MC Dr R. S. Twala

1. Introductions: MC
2. Welcome remarks: PS Agriculture
3. Project introduction: WHO Representative
4. Project team presentation: Dr Rajinder K. Saini (team leader)
5. Discussion/ stakeholders comments/statements
6. Way forward
7. Vote of thanks: PS Health
8. Closure

Partners

Ministry of Agriculture and Cooperatives
Ministry of Health and Social Welfare
International Centre of Insect Physiology and Ecology (ICIPE)
Nairobi, Kenya

Sponsors

World Health Organization (WHO)
Vestergaard Frandsen in Denmark

Annex 20 List of Stakeholders Present in the Tsetse Debriefing Meeting

Friday 9th May 2008, Ministry of Agriculture Conference Room

NAME	AFFILIATION	CONTACT ADDRESS
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Annex 21 End of Survey Party Hosted by Principal Investigator

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