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Environmental Monitoring and Management Component

EMMC

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Assessment of Biodiversity in the project areas of Western Kenya

Report on Birds

By Brian W. Finch



9-16 August 2004

**FITCA EMMC
Report Number B4**



Natural
Resources
Institute



**Assessment of Biodiversity
in the project areas of Western Kenya
Angurai (Teso District) and Busia Township**

Report on Bird Species

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FOREWORD

The baseline survey was carried out in the two Kenyan EMMC areas:

- Angurai, in Teso District (10-12 August),
- Busia Township in Mayenje Sublocation (14-15 August).

The designated plots of biodiversity monitoring, already used for the vegetation studies, were chosen for the sampling activities. The plots were designated in each site with a GPS GARMIN GEKO 301 configured by the GIS Specialist of ILRI, Joseph Matero. The surrounding areas of the site were also sampled to get a total of species occurring in the area at the time of the survey.

This survey was organized simultaneously with the Butterfly survey, in close relationship with the consultant for Butterfly, Mr Steve Collins.

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- Birds species recorded on the designated plots around Angurai
- Species of birds recorded around Angurai, both in the designated plots and the immediate vicinity
- Breakdown of the recorded species by feeding behaviour

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- Plots designated for records
- Birds species recorded on the designated plots around Busia
- Species of birds recorded around Busia, both in the designated plots and the immediate vicinity
- Breakdown of the recorded species by feeding behaviour

Final comment

PART 1

BIRDS RECORDING AND MAIN RESULTS

Objectives

- To find out the differences in bird populations on previously surveyed designated plots.
- To note the differences in bird species composition between plots, those that have been "targeted" for Tsetse Fly control, and those that had not.
- To compare the plots with residual natural habitat, and compare the species composition with other plots, either wholly or partly turned over to agriculture.

Methods

The plots in the Angurai and Busia Districts were visited over a period of seven days.

Details of bird species were recorded for each visit to each site.

Most of the survey was carried out from resting in one spot, at the optimum times. Birds were counted by both sight and voice recognition.

During warmer parts of the day when the birds were inactive and silent, the plots were patrolled and the inhabitants searched for.

Each of the natural plots was visited early morning or late afternoon, to obtain maximum data. Non-natural plots were investigated both morning and the warmer parts of the day.

Most species recorded on a particular plot were recorded on both occasions, indicating a frequency of sorts. In the lists given below, the number 2 after the name explains that this species was recorded twice, in each of the two visits to the same plot.

Variables and Bias:

A whole host of factors had direct influences on the results:

- Firstly the rain usually fell after mid-day, in the study area at Angurai. This made conditions unsuitable for observation, and contrary to what might be expected, after the rain ceased there was not a resumption of activity as the climate became sultry.
- The difficulty of site comparison: to compare the natural sites and remark on differences, the sites themselves should be quite identical, apart from the variance that is being investigated. The natural plots, which are extremely relict¹, are very different from each other.

¹ Relict: the last remnants after a species has been locally removed.

Taking for example Plot WDGR and Plot WDBS:

- Plot WDGR is diminutive broad-leaved shrub, with all original tall timber removed. It is situated on a steep slope providing rapid drainage and soil of poor moisture retention. Apart from a little denser growth in nearby drainage paths, it is surrounded with cultivation, providing very little additional habitat for birds. The understorey consists of rank grass, with no low shrub cover.
- Plot WDBS however is in a drainage path, located in amongst rocky boulders, some of the trees reach five to six metres, although much of the original timber has been removed. There are many leguminous trees, and these are traditionally the richest for birds, providing them with much nourishment. Being in a drainage belt, the soil retains moisture in the accumulated humus and clay substrate. The slope is gentler, and amongst the boulders there are flat areas. This is contiguous with a scattering of native trees, and dense scrub patches interspersed with native grassland meadows providing considerable habitat for birds. The under storey is open with a very dense cover of shrubs, many of them armed, this itself providing a good shelter for birds.

Findings

With the exception of Plot WDBS, with its neighbouring native cover, all other plots, either cultivated or partly cultivated, were found to be unsuitable to sustain a viable bird community. Plot WDGR, whilst consisting of native species, is so heavily changed, and surrounded by a sea of cultivation, that its small area alone would be sufficient to be a severely limiting factor for biodiversity. When studying a site, the immediate environs must be taken into consideration as birds are mobile, and few species would be entirely sedentary in such a habitat.

Most species have to roam to find food, frugivores especially may have to cover considerable distances to find a suitable fruiting tree. Insectivores may be forced to vacate a region if the conditions are not suitable for their insect diet. Gramnivores will only be present in an area when there are sufficient seeding plants to sustain them. In any of these cases in an ideal situation, large concentrations of the group members will occur.

Angurai

It would be true to say that the Angurai District has changed so much over the last few decades; any area, that is remotely possible to cultivate, is cultivated, and all of the natural cover removed. Ornithologically the area is quite disastrous, and what cover there is inadequate for the woodland savannah species that once inhabited the region.

With the changing of the environment, whilst the previous inhabitants suffer, the opening of the area provides new habitat for other species that are quick to take advantage of the change. Now in Angurai we find many species of commensal birds that find the area to their liking. With the new abundance of grasses that are used locally for thatching or cattle-feed, and many weeds that produce copious small seeds, we find that, amongst the current avifauna, there is an impressive variety of estrildid finches in the fields and scrubby edges, because there is an abundance of food for

them. When the area was wooded, there would have been much fewer, and several species would not have been there at all.

Busia

In Busia, the area is an extreme example of land cover change, as virtually all of the immediate vicinity to the plots has been cultivated. There is a major exception to this, and that is the huge swamp adjacent to Plot 7. Here the birdlife is very rich, but, more importantly, it is original. There has been no modification to this swampland, and the avifauna has probably not changed over the centuries. Because this is a rich area, there are incursions into Plot 7, where adventurists² regularly visit the few trees, and the weedy patches for foraging. This greatly distorts the importance of the vegetation on Plot 7, because it is an extension of habitat leading from the swamp. When looking at the list of species recorded on the visits to Plot 7, a completely wrong impression will be taken.

Plot 5, a small patch of scrubland, is in itself too small to support a viable bird population although there are a few species taking refuge here. The neighbouring patch of woodland with more important cover, and maybe food resource, contains a few woodland birds that would not normally be found in such a small patch of scrub as Plot 5, but they are regularly visiting it whilst foraging.

As stated before, a given Plot is majorly influenced by its immediate environment, and cannot stand as a refuge in its own right. Whilst a few species will take advantage of the habitat, the diversity had this been a large area of habitat, has diminished by a very large percentage. Thus an area of 50m x 100m is not capable of sustaining biodiversity when all around it is cultivated.

All this means that any relationships between one plot targeted for Tsetse control cannot be justifiably compared to one that has never been targeted, given all of these variables.

Insects do however manage to hold on in very small areas providing that there is sufficient quantity of the food-plant, and shade or sun as they require it. Whilst the composition of the Plots may be differing, there is a possibility that there will be a marked difference in areas that have been treated or not.

However with the birds present on the plots, there is still a good percentage of insectivores, indicating that there must be sustenance for them. Granivores are quick to take advantage of the abundance of weed seeds after the area has been cleared.

To have such a valid example with the birds, the plots must be identical in all facets, then, and only then, would a researcher be able to find if the Tsetse control is having a direct effect on them.

² Adventurist: exploratory, visiting an area for the chance that the given area may contain food. In this way, certain species are able to colonise new areas. Opposed to migration, where a species is undertaking a journey on a regular basis.



Finch's Agama *Agama finchi*

This new species only described in 2004, was found to be common to abundant on the rocky outcrops

PART 2

BIRDS RECORDED IN ANGURAI, TESO DISTRICT IN AUGUST 2004

PLOTS DESIGNATED FOR RECORDS ANGURAI

ANGURAI GPS LOCATIONS

CULT	36N	E0647709 / N0080225
FA	36N	E0623538 / N0050248
FLGZ	36N	E0647727 / N0079662
MZ	36N	E0647189 / N0079064
MZCA	36N	E0647633 / N0079631
WDBS	36N	E0647224 / N0078962
WDBS1	36N	E0647615 / N0080215
WDGR	36N	E0645755 / N0078905

ANGURAI PLOT DESCRIPTIONS

PLOT: WDGR Angurai

Broad-leaved scrub, barely four metres high, no trees except a few along boundaries. No shrubby understorey, just rank grass, overall dry biome. Well drained and situated on a steep slope of constant incline. Vegetation appears limited to a few dominant species, with legumes poorly represented.

Obviously secondary growth, or all trees over four metres already harvested. Natural vegetation forms very small area in extensive cultivation, with thicker growth along nearby creeks and small valleys.

PLOT: FLGZ Angurai

Flat open area of short grassland, no tree cover, *Lantana* thickets on periphery. Partly turned over to sweet potato cultivation. Located in area of extensive cultivation.

PLOT: MZCA Angurai

A small, flat area of cassava, and recently harvested maize. No natural bush or tree cover. Located in area of extensive cultivation.

PLOT: WDBS Angurai

Small area of natural vegetation, though changed forest growth located amongst boulder area difficult to farm. Unlike WDGR, legumes well represented with many *Albizia*. Undergrowth dense and rank, retaining humidity, and much gentler gradient, with flat areas and a stream. More open side of boulder hill, heavily cultivated.

Location heavily cultivated, however grassy slopes and dense thickets down hill from plot, and a naturally vegetated hill adjacent. The region visited with the most natural cover.

PLOT: **WDBS1** Angurai

A tiny plot of natural secondary dry scrub on a steep slope, in heavily cultivated area on boulder strewn hill. Rank growth along bordering stream, but only a ribbon of natural vegetation, although a few trees present.

PLOT: **CULTSE** Angurai

Cultivated plot, adjacent to WDBS1. Open area with no natural cover, but with neighbouring *Lantana* thickets.

BIRD SPECIES RECORDED ON THE DESIGNATED PLOTS AROUND ANGURAI

1 - PLOT: WDGR Angurai

WOODED GRASSLAND ON SLOPE

10th August 2004

12-50 - 14-10hrs

Warm with sunny periods, then rain in afternoon.

11th August 2004

08-00 - 10-00hrs

Cloudy, clearing later to intermittently sunny

Species observed in the plot (the number 2 after the name means that in two visits on the same plot, that species was recorded on both occasions):

Great Sparrowhawk

Blue-spotted Wood-Dove

White-browed Coucal

Yellowbill

Klaas' Cuckoo

Diederik Cuckoo

Pygmy Kingfisher

Yellow-rumped Tinkerbird 2

Greater Honeyguide

Little Greenbul 2

Common Bulbul 2

Brown-backed Scrub-Robin 2

Croaking Cisticola

Whistling Cisticola 2

Singing Cisticola

Tawny-flanked Prinia 2

White-chinned Prinia 2

African Moustached Warbler

Dark-capped Yellow Warbler

Paradise Flycatcher

Black-headed Batis

Scarlet-chested Sunbird

Olive Sunbird
Green-headed Sunbird
Copper Sunbird
Purple-banded Sunbird
Olive-bellied Sunbird 2
Yellow White-eye
Baglafaecht Weaver
Compact Weaver
Black-rumped Waxbill
Common Waxbill
Fawn-bellied Waxbill 2
Black-bellied Firefinch 2
Bronze Mannikin 2
Black & White Mannikin
Grey-headed Sparrow
African Citril 2
Yellow-fronted Canary

Peripheral:

Black-headed Heron
Crested Francolin
Black-billed Barbet
Yellow-fronted Tinkerbird
Cabanis' Greenbul
Grey-winged Robin-Chat
Red-faced Cisticola
Black-headed Gonolek
Bronze Sunbird

NB: this plot also had an example of Chevron-throated Dwarf-Gecko *Lygodactylus gutturalis*, which was the first record for Kenya

Chevron-throated Dwarf Gecko *Lygodactylus gutturalis*

This species was discovered on plot WDGR and represented the first record of the species from Kenya



2 - PLOT: FLGZ Angurai

FALLOW GRASSLAND

10th August 2004

15-00 - 15-40

Warmish sunny afternoon with intermittent cloud

Species:

Striped Kingfisher
Yellow-fronted Tinkerbird
Common Bulbul
Singing Cisticola
Tawny-flanked Prinia
White-chinned Prinia
Olive-bellied Sunbird
Yellow White-eye
Red-billed Firefinch
Bronze Mannikin
Brimstone Canary
Yellow-fronted Canary

3 - PLOT: MZCA Angurai

FALLOW GRASSLAND

10th August 2004

15-45 - 16-00hrs

Warmish sunny afternoon with intermittent cloud

Species:

Common Bulbul
Tawny-flanked Prinia
Bronze Mannikin

4 - PLOT: CULTSE Angurai

THICK WOODLAND, VERY SMALL AREA

10th August 2004

16-15 - 17-20

Cool cloudy evening

5 - PLOT: WDBS Angurai

SHADY WOODLAND, VERY SMALL AREA

12th August 2004

08-00 - 14-30hrs

Wet morning clearing intermittent sun, rain in afternoon

12th August 2004

08-00 - 12-30hrs

sunny clouding towards 13-00hrs

Species:

Black-shouldered Kite

Speckled Pigeon

Red-eyed Dove 2

Blue-spotted Wood-Dove 2

White-browed Coucal 2

Klaas' Cuckoo 2

Diederik Cuckoo

Red-chested Cuckoo 2

Greyish Eagle-Owl

African Black Swift

Red-headed Lovebird 2

Speckled Mousebird 2

Pygmy Kingfisher 2

Yellow-fronted Tinkerbird 2

Yellow-rumped Tinkerbird

White-headed Saw-wing 2

Common Bulbul 2

Little Greenbul 2

White-browed Robin-Chat

Snowy-headed Robin-Chat

Brown-backed Scrub-Robin

Tawny-flanked Prinia 2

Grey-backed Camaroptera 2

Dark-capped Yellow Warbler

Grey-capped Warbler 2

Singing Cisticola 2

Siffling Cisticola

Paradise Flycatcher

Blue Flycatcher

Brown-crowned Tchagra 2

Sulphur-breasted Bush-Shrike 2

Scarlet-chested Sunbird 2

Green-headed Sunbird

Bronze Sunbird

Olive-bellied Sunbird 2

Copper Sunbird 2

Yellow White-eye 2

Brown-throated Wattle-eye 2

Violet-backed Starling

Black-headed Weaver

Baglafaecht Weaver

Spectacled Weaver

Compact Weaver

Parasitic Weaver

Black & White Mannikin 2

Bronze Mannikin 2

Red-cheeked Cordon-bleu

Purple Grenadier

Fawn-bellied Waxbill 2

Red-billed Firefinch

African Firefinch 2
Black-bellied Firefinch 2
Yellow-fronted Canary 2

Peripheral:

Laughing Dove
Marsh Tchagra
Red-winged Warbler
African Moustached Warbler
Black-faced Waxbill

6 - PLOT: WDBS1 Angurai

THICK WOODLAND, VERY SMALL AREA

10th August 2004

16-15 - 17-20

Cool cloudy evening

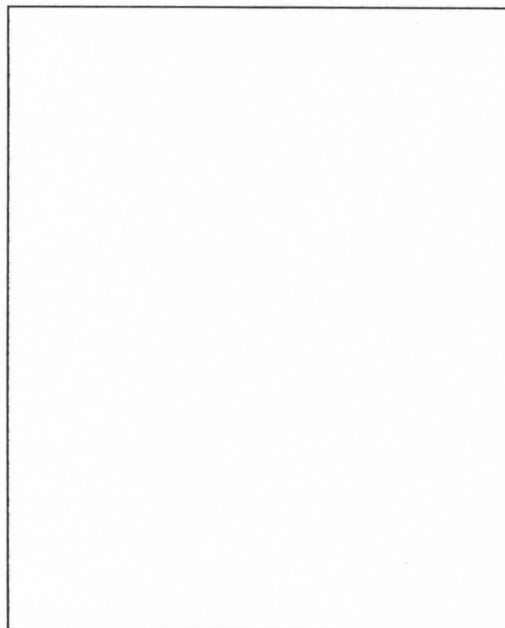
11th August 2004

10-30 - 13-00hrs

hot and sultry, short showers

Species:

Red-eyed Dove 2
Tambourine Dove
Yellowbill
Klaas' Cuckoo
Ross's Turaco
Yellow-rumped Tinkerbird 2
Little Greenbul 2
Common Bulbul
Brown-backed Scrub-Robin
Siffling Cisticola
Singing Cisticola 2
Whistling Cisticola
Tawny-flanked Prinia
Grey-backed Camaroptera 2
Green-headed Sunbird



Nota: Purple-banded Sunbird nest 2 yg
(GPS point: 36M 0647698 0080199)

**SPECIES OF BIRDS RECORDED AROUND ANGURAI,
BOTH IN THE DESIGNATED PLOTS AND THE
IMMEDIATE VICINITY**

NOTA: Taxonomy follows "*Field Guide to the Birds of East Africa*" by Stevenson *et al.*, T. & A.D. POYSER, 2002

ARDEIDAE

Black-headed Heron

Nests colonially in trees- individual flying over

ACCIPITRIDAE

Black-shouldered Kite

Requires trees for breeding, open areas for feeding on rodents/invertebrates

Great Sparrowhawk

Feeds on birds, requires tall tree for nesting

PHASIANIDAE

Crested Francolin

Requires scrubby growth and open grassy areas for breeding/feeding

COLUMBIDAE

Speckled Pigeon

Cliff and building nester - only flying overhead

Red-eyed Dove

Fruit and seed feeder, requires trees for breeding

Laughing Dove

Fruit and seed eater, requires trees or bushes for breeding

Blue-spotted Wood-Dove

Fruit and seed eater, requires bushes and low trees for breeding

Tambourine Dove

Forest /woodland - relicts continue in dense riverine growth

CUCULIDAE

White-browed Coucal

Requires dense scrub for breeding, omnivorous

Yellowbill

A forest species holding on in dense scrub and riverine timber

Klaas' Cuckoo

Brood Parasite, requires warblers for raising young, feeds on caterpillars

Diederik Cuckoo

Brood Parasite, requires sunbirds/warblers for raising young, feeds on caterpillars

Red-chested Cuckoo

Brood Parasite, requires larger passerines for raising young, feeds on caterpillars

MUSOPHAGIDAE

Ross's Turaco

Frugivore, requires woodland territory, existing in riverine woodland

STRIGIDAE

Greyish Eagle-Owl

A new species separated from Spotted Eagle-Owl, requires thick trees for breeding, feeds rodents and larger birds

APODIDAE

African Black Swift

Aerial feeder breeding on cliffs, requires open expanses (also above forest) with airborne insects

PSITTACIDAE

Red-headed Lovebird

Fruit/Seed eater, requires tree holes for nesting, opportunist feeder on seed crops

ALCEDINIDAE

Striped Kingfisher

Invertebrate feeder, requires open woodland, tree holes for nesting

Pygmy Kingfisher

Open and closed scrub, feeds on invertebrates, nests in banks- probably most are southern migrants not-breeding in area

COLIDAE

Speckled Mousebird

Fruit and leaf eater, requires scrub for breeding

CAPITONIDAE

Black-billed Barbet

Feeds on fruit and invertebrates, requires trees as breeds in tree holes

Yellow-fronted Tinkerbird

Fruit but mainly mistletoe feeder, nests in tree holes

Yellow-rumped Tinkerbird

Mainly mistletoe fruit eater, nests in tree holes requires taller timber than above

INDICATORIDAE

Greater Honeyguide

Feeds on bees-wax and invertebrates, brood parasite on barbets/tinkerbirds, thus requires tree holes

HIRUNDIDAE

White-headed Saw-wing

Aerial feeder, requires woodland for insects, banks for nesting

PYCNONOTIDAE

Little Greenbul

Mainly fruit eater, survives in relict dense scrub where it breeds

Cabanis' Greenbul

Mainly invertebrate eater, requires dense riverine growth or forest

Common Bulbul

Survives in disturbed habitat, feeds on fruit

SYVIIDAE

Siffling Cisticola

Insectivore, requires bushed grassland and forest edge

Croaking Cisticola

Insectivore, requires grassland with scattered bushes

Whistling Cisticola

Insectivore, requires dense scrubby growth in rank grassland

Singing Cisticola

Insectivore, requires dense scrubby patches and forest edge, adapted to lantana thickets

Red-faced Cisticola

Insectivore, requiring dense scrubby riverine growth

Tawny-flanked Prinia

Insectivore, readily adapting to modified habitats providing cover available

White-chinned Prinia

Forest edge and dense riverine scrub, requires vine growth on trees

Red-winged Warbler

One pair living on hill adjacent to Plot WDDBS, which is dense scrub and woodland on boulder hill. First record in Kenya for over twelve years.

Insectivore, requiring scrubby grassland

Grey-backed Camaroptera

Insectivore, living in thick riverine and scrub growth

Grey-capped Warbler

Insectivore, living in closed dense growth and riverine scrub

African Moustached Warbler

Insectivore, living in rank grassland with shrubbery

Dark-capped Yellow Warbler

Insectivore, requiring dense weedy areas and scrub

TURDIDAE

White-browed Robin-Chat

Insectivore, requires very dense thickets

Snowy-headed Robin-Chat

Insectivore, requiring dense thickets and woodland

Grey-winged Robin-Chat

Insectivore, requiring very dense scrubby gullies

Brown-backed Scrub-Robin

Insectivore, requiring dense scrub adjacent to open areas

MONARCHIDAE

Paradise Flycatcher

Insectivore, adaptable requiring presence of trees or scrub

Blue Flycatcher

Insectivore, requires trees and riverine woodland

PLATYSTEIRIDAE

Black-headed Batis

Insectivore, requires fairly thick scrub in open rank grassland

Brown-throated Wattle-eye

Insectivore, requires dense riverine thickets and forest

MALACONOTIDAE

Marsh Tchagra

Insectivore, requires dense reedy or weedy growth, presence of water not a necessity

Brown-crowned Tchagra

Insectivore, requires dense or open scrub and woodland

Sulphur-breasted Bush-Shrike

Insectivore, requires mainly acacia woodland and riverine

Black-headed Gonolek

Insectivore, requires dense riverine growth and adjacent woodland

NECTARINIIDAE

Bronze Sunbird

Insectivore and nectar feeder, requires open scrub and riverine

Scarlet-chested Sunbird

Insectivore and nectar feeder, requires open scrubby woodland

Olive Sunbird

Insectivore and nectar feeder, requires dense riverine thicket

Green-headed Sunbird

Insectivore and nectar feeder, requires riverine thicket and adjacent scrubby woodland

Copper Sunbird

Insectivore and nectar feeder, requires open scrubby woodland

Olive-bellied Sunbird

Insectivore and nectar feeder, requires open scrubby woodland and riverine scrub

Purple-banded Sunbird

Insectivore and nectar feeder, requires lush woodland and riverine woodland

ZOSTEROPIDAE

Yellow White-eye

Insectivore and fruit eater, adaptable woodland and scrub species

STURNIDAE

Violet-backed Starling

Frugivore, highly nomadic species, requires fruiting trees and tree holes for nesting

PASSERIDAE

Grey-headed Sparrow

Mainly seed eater, but adapting to village life, nesting in tree holes

PLOCEIDAE

Black-headed Weaver

Adaptable insectivore and seed eater, follows man and feeds on crops, requires tree for colonial nest

Baglafaecht Weaver

Mainly insectivore, requires dense thicket, will feed on seed crops

Spectacled Weaver

Insectivore, requires dense thickets and riverine woodland

Compact Weaver

Mainly seed eater, requires open rank grassland and weed patches, will feed on seed crops

EMBERIZIDAE

Pin-tailed Whydah

Seed eater, brood parasite, requires presence of small estrildids such as Red-billed Firefinch for raising young

Red-cheeked Cordon-bleu

Seed eater, requires thickets and dense weed patches adjacent to open rank grassland

Purple Grenadier

Seed eater, requires dense thickets, scrubby woodland or riverine scrub

Fawn-bellied Waxbill

Seed eater, requires open rank grassland and weed patches

Common Waxbill

Seed eater, requires open rank grassland and weed patches

Black-rumped Waxbill

Seed eater, requires open rank grassland and weed patches

Black-faced Waxbill

Seed eater, requires open woodland in rank grassy areas

Red-billed Firefinch

Seed eater, dense thickets adjacent to rank grassland, but adaptable to villages

Black-bellied Firefinch

Seed eater, dense weedy growth and thickets, mainly in boulder areas

African Firefinch

Seed eater, requires dense thickets and riverine woodland, feeding on edge in rank weed growth

Bronze Mannikin

Seed eater, requires open rank grassland and weed patches, adaptable to village life, feeding on seed crops

Black & White Mannikin

Seed eater, requires open rank grassland and weed patches, not adaptable to village life, but will readily feed on seed crops

FRINGILLIDAE

African Citril

Seed eater, requires open rank grassland and weed patches, trees for song posts

Yellow-fronted Canary

Seed eater, requires open rank grassland and weed patches with woodland

Brimstone Canary

Seed eater, requires open rank grassland and weed patches with adjacent scrub

BREAKDOWN OF THE RECORDED SPECIES BY FEEDING BEHAVIOUR

Frugivore/Gramnivore/Nectarivore
i.e. directly plant related for food resource: 40 species

Crested Francolin	Yellow White-eye
Speckled Pigeon	Violet-backed Starling
Red-eyed Dove	Grey-headed Sparrow
Laughing Dove	Black-headed Weaver
Blue-spotted Wood-Dove	Compact Weaver
Tambourine Dove	Pin-tailed Whydah
Ross's Turaco	Red-cheeked Cordon-bleu
Red-headed Lovebird	Purple Grenadier
Speckled Mousebird	Fawn-bellied Waxbill
Black-billed Barbet	Common Waxbill
Yellow-fronted Tinkerbird	Black-rumped Waxbill
Yellow-rumped Tinkerbird	Black-faced Waxbill
Little Greenbul	Red-billed Firefinch
Common Bulbul	Black-bellied Firefinch
Bronze Sunbird	African Firefinch
Scarlet-chested Sunbird	Bronze Mannikin
Olive Sunbird	Black & White Mannikin
Green-headed Sunbird	African Citril
Copper Sunbird	Yellow-fronted Canary
Olive-bellied Sunbird	Brimstone Canary
Purple-banded Sunbird	

Obligate Insectivore
feeding on invertebrates themselves
tied directly to a plant resource: 38 species

Black-shouldered Kite	White-headed Saw-wing
White-browed Coucal	Cabanis' Greenbul
Yellowbill	Siffling Cisticola
Klaas' Cuckoo	Croaking Cisticola
Diederik Cuckoo	Whistling Cisticola
Red-chested Cuckoo	Singing Cisticola
African Black Swift	Red-faced Cisticola
Striped Kingfisher	Tawny-flanked Prinia
Pygmy Kingfisher	White-chinned Prinia
Greater Honeyguide	Red-winged Warbler

Grey-backed Camaroptera
Grey-capped Warbler
African Moustached Warbler
Dark-capped Yellow Warbler
White-browed Robin-Chat
Snowy-headed Robin-Chat
Grey-winged Robin-Chat
Brown-backed Scrub-Robin
Paradise Flycatcher

Blue Flycatcher
Black-headed Batis
Brown-throated Wattle-eye
Marsh Tchagra
Brown-crowned Tchagra
Sulphur-breasted Bush-Shrike
Black-headed Gonolek
Baglafecht Weaver
Spectacled Weaver

Carnivore
feeding directly on the birds resident in the area: 2 species

Great Sparrowhawk
Greyish Eagle-Owl

In a naturally forested habitat, it would be reasonable to expect up to 15 species of carnivorous bird species preying on the residents. This indicates that the food resource is not present, and that whilst there is still species diversity, there has been a huge reduction in the number of individuals present.



Greyish Eagle Owl *Bubo cinerascens*

This form, recently separated from Spotted Eagle Owl, differs mainly in having dark, not yellow eyes. The bird above was found in the remnant forest on plot WDBS.

PART 3

**BIRDS RECORDED IN BUSIA
TOWNSHIP,
BUSIA DISTRICT IN AUGUST
2004**

PLOTS DESIGNATED FOR RECORDS BUSIA

BUSIA GPS LOCATIONS

PLOT 1	36N	E0623162 / N0048268	note: contiguous with Plots 2 & 4 and cleared
PLOT 2	36N	E0623088 / N0049147	note: contiguous with Plots 1 & 4 and cleared
PLOT 3	36N	E0623082 / N0048669	
PLOT 4	36N	E0623082 / N0048268	note: contiguous with Plots 1 & 2 and cleared
PLOT 5	36N	E0623607 / N0047803	
PLOT 6	36N	E0622881 / N0047811	
PLOT 7	36N	E0622861 / N0047139	
SRQP	36N	E0623624 / N0047782	

THE BUSIA PLOTS.... Overview

The Busia area investigated, showed maximum clearance. Almost the whole area is cultivated, with little exception all original growth had been removed. There were open fallow areas, but nothing natural.

Plots 1, 2 & 4 were the same general area, and had recently been ploughed up ready for planting.

Plot 3 was an area of fallow, and had isolated scrubby bushes, rank hedgerow of the exotic *Lantana camara* and *Tithonia*. This plot provided both feeding for granivores and a few insectivores, plus small amount of habitat for nesting.

Plot 5 consisted of a small area of low scrub, there are a few neighbouring tall trees on an adjacent school ground, but the scrub itself had a very low biodiversity, being otherwise surrounded by completely cleared land.

Plot 6 consisted of a small area of fallow ground, but unlike Plot 3, had no scrub cover. **Plot 7** was made up of a few trees including a *Ficus*, and open scrubby grassland. As stated before the chain of vegetation leading from a pristine area of swampland, meant that many adventists were able to visit this plot, thus giving a false impression of the importance of the site for birds.

BIRD SPECIES RECORDED ON THE DESIGNATED PLOTS AROUND BUSIA

PLOT 1 Busia

RECENTLY PLOUGHED LAND, SAME GENERAL AREA AS PLOT 2 AND PLOT 4

14th August 2004

08-50 - 09-40hrs

Sunny and bright, quite warm

15th August 2004

08-20 - 08-30hrs

Cloudy, clearing later to sunny and warm

Species:

Tawny-flanked Prinia 2
African Pied Wagtail 2
Compact Weaver
Bronze Mannikin 2
Yellow-fronted Canary 2

PLOT 3

OPEN FALLOW GRASSLAND WITH BORDER OF LANTANA AND TITHONIA

14th August 2004

10-00 - 11-00hrs

Warm and sunny

15th August 2004

08-35 - 09-35hrs

Cloudy, clearing later to intermittently sunny

Species:

Common Bulbul 2
Yellow-throated Longclaw 2
White-browed Robin-Chat
Red-faced Cisticola

Scarlet-chested Sunbird
Copper Sunbird 2
Baglafecht Weaver 2
Bronze Mannikin 2

Yellow-fronted Canary 2

Peripheral:

Crested Francolin
Black-shouldered Kite
Brown Parrot
Tropical Boubou
Common Fiscal

PLOT 5

ISOLATED VERY SMALL RELICT DENSE LOW SCRUB, NEIGHBOURING
SMALL PATCH OF PRIVATE TALL INDIGENOUS WOODLAND LISTED AS

Plot SRQP

14th August 2004

11-20 - 12-30hrs

Hot and sunny

15th August 2004

07-40 - 08-20hrs

Cloudy, clearing later to intermittently sunny

Species:

White-browed Coucal
Lesser Honeyguide
Common Bulbul
White-browed Scrub-Robin
Tawny-flanked Prinia
Variable Sunbird
Baglafaecht Weaver
Black-headed Weaver
Grey-headed Sparrow
Bronze Mannikin
Black-and-White Mannikin
Fawn-bellied Waxbill

[Empty box]

Peripheral:

Striped Kingfisher
Grey Woodpecker
Compact Weaver

PLOT 6

ROADSIDE SMALL AREA OF FALLOW GRASSLAND WITH MUCH
HERBACEOUS GROWTH

14^h August 2004

12-50 - 13-50hrs

Species:

Tawny-flanked Prinia
Scarlet-chested Sunbird
Pin-tailed Whydah
Bronze Mannikin

Woodland Kingfisher
Yellow-throated Leaflove

Peripheral:

PLOT 7

SMALL AREA OF FALLOW WITH BUSHLAND, AND FIG-TREE LEADING
TOWARDS SWAMP WITH INTERMITTENT SMALL SHRUBS FORMING
LINKAGE

14^h August 2004

14-10 - 15-30hrs

Hot and sunny

15^h August 2004

06-45 - 07-30hrs

Species:

Red-eyed Dove
Klaas' Cuckoo
Speckled Mousebird
Yellow-fronted Tinkerbird
African Pied Wagtail
Yellow-throated Longclaw
Common Bulbul

Tawny-flanked Prinia
Grey-capped Camaroptera
Yellow White-eye
Scarlet-chested Sunbird
Pied Crow
Ruppell's Starling
Grey-headed Sparrow

Baglafaecht Weaver
Bronze Mannikin
Black-and-White Mannikin
Pin-tailed Whydah
Yellow-fronted Canary
Hadada Ibis
Black-shouldered Kite
Crested Francolin
Blue-spotted Wood-Dove
Laughing Dove
Eastern Grey Plantain-eater
Diederik Cuckoo
Blue-headed Coucal
Senegal Coucal
African Palm Swift
African Black Swift
Striped Kingfisher
Woodland Kingfisher
Pygmy Kingfisher
Little Bee-eater
Barn Swallow
Lesser Striped Swallow
Dark-capped Yellow Warbler
Greater Swamp Warbler
African Moustached Warbler
Winding Cisticola
Red-faced Cisticola
Grey-capped Warbler
Brown Babbler
Olive-bellied Sunbird
Copper Sunbird
Red-chested Sunbird
Common Fiscal

Black-headed Gonolek
Tropical Boubou
Brown-crowned Tchagra
Marsh Tchagra
Red-billed Oxpecker
Black-headed Weaver
Spectacled Weaver
Slender-billed Weaver
Compact Weaver
Holub's Golden Weaver
Yellow-mantled Widowbird
Red-cheeked Cordonbleu
Red-billed Firefinch
Bar-breasted Firefinch
Common Waxbill
Fawn-breasted Waxbill
Brimstone Canary
Papyrus Canary
Africa Citril

**SPECIES OF BIRDS RECORDED AROUND BUSIA,
BOTH IN THE DESIGNATED PLOTS AND THE
IMMEDIATE VICINITY**

NOTA: Taxonomy follows "*Field Guide to the Birds of East Africa*" by Stevenson *et al.*, T. & A.D. POYSER, 2002

ACCIPITRIDAE

Black-shouldered Kite

Requires trees for breeding, open areas for feeding on rodents/invertebrates

PHASIANIDAE

Crested Francolin

Requires scrubby growth and open grassy areas for breeding/feeding

COLUMBIDAE

Red-eyed Dove

Fruit and seed feeder, requires trees for breeding

Laughing Dove

Fruit and seed eater, requires trees or bushes for breeding

Blue-spotted Wood-Dove

Fruit and seed-eater, required bushes and low trees for breeding

CUCULIDAE

White-browed Coucal

Requires dense scrub for breeding, omnivorous

Senegal Coucal

Omnivore, requires dense thickets and adjacent dense grassland in scrub

Blue-headed Coucal

Large omnivore, requiring very dense tall grass/reed stands

Klaas' Cuckoo

Brood Parasite, requires warblers for raising young, feeds on caterpillars

Diederik Cuckoo

Brood Parasite, requires sunbirds/warblers for raising young, feeds on caterpillars

MUSOPHAGIDAE

Eastern Grey Plantain-eater

Large frugivore, requiring supply of fruiting trees in riverine and forest edge

APODIDAE

African Black Swift

Aerial feeder breeding on cliffs, required open expanses (also above forest) with airborne insects

African Palm Swift

Aerial insectivore, requiring open areas with flying insects, palm trees for nesting

PSITTACIDAE

Brown Parrot

Fruit eater, requires large tree holes for nesting, covers long distances for feeding

MEROPIDAE

Little Bee-eater

Insectivore, requiring scrub with ample open areas, banks for nesting

ALCEDINIDAE

Striped Kingfisher

Invertebrate feeder, required open woodland, tree holes for nesting

Woodland Kingfisher

Insectivore, require tall trees with adjacent open country

Pygmy Kingfisher

Open and closed scrub, feeds on invertebrates, nests in banks- probably most are southern migrants not-breeding in area

COLIIDAE

Speckled Mousebird

Fruit and leaf eater, requires scrub for breeding

CAPITONIDAE

Yellow-fronted Tinkerbird

Fruit but mainly mistletoe feeder, nests in tree holes

PICIDAE

Grey Woodpecker

Insectivore, obtaining food from tree trunks, requires trees in open country

INDICATORIDAE

Lesser Honeyguide

Wax feeder and insectivore, requires tall trees, brood parasite on tinkerbirds for hole nests

HIRUNDINIDAE

Barn Swallow

Aerial feeding palaeartic migrant to any open spaces, not breeding

Lesser Striped Swallow

Aerial feeding, requiring open areas for feeding, bridges, buildings or culverts for nesting

TIMALIDAE

Brown Babbler

Omnivore, requires dense scrubby growth with adjacent open areas

PYCNONOTIDAE

Yellow-throated Leaflove

Insectivore, requires dense riverine thickets

Common Bulbul

Survives in disturbed habitat, feeds on fruit

MOTACILLIDAE

African Pied Wagtail

Insectivore, follows villages and adaptable, requiring open pasture

Yellow-throated Longclaw

Insectivore, requires open pasture and short grassland

SYLVIIDAE

Winding Cisticola

Insectivore, requires rank grassland and marsh, usually near water

Red-faced Cisticola

Insectivore, requiring dense scrubby riverine growth

Tawny-flanked Prinia

Insectivore, readily adapting to modified habitats providing cover available

Grey-backed Camaroptera

Insectivore, living in thick riverine and scrub growth

Grey-capped Warbler

Insectivore, living in closed dense growth and riverine scrub

Greater Swamp Warbler

Insectivore, requires dense marsh grass or papyrus, water essential

African Moustached Warbler

Insectivore, living in rank grassland with shrubbery

Dark-capped Yellow Warbler

Insectivore, requiring dense weedy areas and scrub

TURDIDAE

White-browed Robin-Chat

Insectivore, requires very dense thickets

White-browed Scrub-Robin

Insectivore, requiring dense thickets

LANIIDAE

Common Fiscal

Insectivore, requires open areas and readily adapts to forest clearance

MALACONOTIDAE

Marsh Tchagra

Insectivore, requires dense reedy or weedy growth, presence of water not a necessity

Brown-crowned Tchagra

Insectivore, requires dense or open scrub and woodland

Black-headed Gonolek

Insectivore, requires dense riverine growth and adjacent woodland

Tropical Boubou

Insectivore, requires dense thickets and tangles

NECTARINIIDAE

Scarlet-chested Sunbird

Insectivore and nectar feeder, requires open scrubby woodland

Copper Sunbird

Insectivore and nectar feeder, requires open scrubby woodland

Olive-bellied Sunbird

Insectivore and nectar feeder, requires open scrubby woodland and riverine scrub

Red-chested Sunbird

Insectivore and nectar feeder, requires thickets near water

Variable Sunbird

Insectivore and nectar feeder, requires open situations with thickets

ZOSTEROPIDAE

Yellow White-eye

Insectivore and fruit eater, adaptable woodland and scrub species

CORVIDAE

Pied Crow

Omnivore, commensal with man, profiting from land clearance

STURNIDAE

Ruppell's Starling

Omnivore, requiring woodland with adjacent open country

Red-billed Oxpecker

Tick feeder, requires ungulates that are unsprayed, holes in trees for breeding

PASSERIDAE

Grey-headed Sparrow

Mainly seed eater, but adapting to village life, nesting in tree holes

PLOCEIDAE

Yellow-mantled Widowbird

Omnivore, requires rank grassland also adapts to cereal crops

Black-headed Weaver

Adaptable insectivore and seed eater, follows man and feeds on crops, requires tree for colonial nest

Baglafaecht Weaver

Mainly insectivore, requires dense thicket, will feed on seed crops

Spectacled Weaver

Insectivore, requires dense thickets and riverine woodland

Slender-billed Weaver

Insectivore, usually associated with papyrus, but in dense reed beds

Compact Weaver

Mainly seed eater, requires open rank grassland and weed patches, will feed on seed crops

Holub's Golden Weaver

Mainly insectivore, requires dense thickets often near water

EMBERIZIDAE

Pin-tailed Whydah

Seed eater, brood parasite, requires presence of small estrildids such as Red-billed Firefinch for raising young

Red-cheeked Cordon-bleu

Seed eater, requires thickets and dense weed patches adjacent to open rank grassland

Fawn-bellied Waxbill

Seed eater, requires open rank grassland and weed patches

Common Waxbill

Seed eater, requires open rank grassland and weed patches

Red-billed Firefinch

Seed eater, dense thickets adjacent to rank grassland, but adaptable to villages

Bar-breasted Firefinch

Seed eater, requires dense scrub thickets in open rank grassland

Bronze Mannikin

Seed eater, requires open rank grassland and weed patches, adaptable to village life, feeding on seed crops

Black & White Mannikin

Seed eater, requires open rank grassland and weed patches, not adaptable to village life, but will readily feed on seed crops

FRINGILLIDAE

African Citril

Seed eater, requires open rank grassland and weed patches, trees for song posts

Yellow-fronted Canary

Seed eater, requires open rank grassland and weed patches with woodland

Brimstone Canary

Seed eater, requires open rank grassland and weed patches with adjacent scrub

BREAKDOWN OF THE RECORDED SPECIES BY FEEDING BEHAVIOUR

Frugivore/Gramnivore/Nectarivore
i.e. directly plant related for food resource: 31 species

Crested Francolin
Red-eyed Dove
Laughing Dove
Blue-spotted Wood-Dove
Eastern Grey Plantain-eater
Brown Parrot
Speckled Mousebird
Yellow-fronted Tinkerbird
Common Bulbul
Scarlet-chested Sunbird
Copper Sunbird
Olive-bellied Sunbird
Red-chested Sunbird
Variable Sunbird
Yellow White-eye
Grey-headed Sparrow

Yellow-mantled Widowbird
Black-headed Weaver
Compact Weaver
Holub's Golden Weaver
Pin-tailed Whydah
Red-cheeked Cordon-bleu
Fawn-bellied Waxbill
Common Waxbill
Red-billed Firefinch
Bar-breasted Firefinch
Bronze Mannikin
Black & White Mannikin
African Citril
Yellow-fronted Canary
Brimstone Canary

Obligate Insectivore
feeding on invertebrates themselves
tied directly to a plant resource: 42 species

Black-shouldered Kite
White-browed Coucal
Senegal Coucal
Blue-headed Coucal
Klaas' Cuckoo
Diederik Cuckoo
African Black Swift
African Palm Swift
Little Bee-eater
Striped Kingfisher

Woodland Kingfisher
Pygmy Kingfisher
Grey Woodpecker
Lesser Honeyguide
Barn Swallow
Lesser Striped Swallow
Brown Babbler
Yellow-throated Leaflove
African Pied Wagtail
Yellow-throated Longclaw

Winding Cisticola
Red-faced Cisticola
Tawny-flanked Prinia
Grey-backed Camaroptera
Grey-capped Warbler
Greater Swamp Warbler
African Moustached Warbler
Dark-capped Yellow Warbler
White-browed Robin-Chat
White-browed Scrub-Robin
Common Fiscal

Marsh Tchagra
Brown-crowned Tchagra
Black-headed Gonolek
Tropical Boubou
Pied Crow
Ruppell's Starling
Red-billed Oxpecker
Baglafecht Weaver
Spectacled Weaver
Slender-billed Weaver
Holub's Golden Weaver

Final comment

At the time of survey, there were no birds migrating through the area, as they were still in their Eurasian breeding grounds. From October to December, many birds will pass through the area, virtually all being insectivores or carnivores, but not obligate frugivores or granivores. A few will stay, and there will be a return again through the area March to early May. All birds recorded in the area were resident within the immediate vicinity if not on the plots itself, the one exception being Barn Swallow, which is an early arrival, from early July onwards.

M3 – MAITIMA Joseph, NJUGUNA Evanson, KARUGA Julia, MUGATHA Simon, MBUVI Dorcas – **Assessment of land use, vegetation and human perception on environmental changes in FITCA-EMMC sites: Busia Township (Busia District, Western Kenya)**, December 2003.

M4 - MAITIMA Joseph, NJUGUNA Evanson, LAKER Christopher, KEGO Caroline, RUTEBUKA Annah M., MUGATHA Simon, MBUVI Dorcas – **Assessment of land use, vegetation and human perception on environmental changes in FITCA-EMMC sites: Akoroi, Soroti District, Eastern Uganda.** December 2003.

M5 - MAITIMA Joseph, NJUGUNA Evanson, LAKER Christopher, KEGO Caroline, RUTEBUKA Annah M., MUGATHA Simon, MBUVI Dorcas – **Assessment of land use, vegetation and human perception on environmental changes in FITCA-EMMC sites: Buyuba/Busiri, Namwendwa Sub-County, Kamuli District, Eastern Uganda.** December 2003.

M6 - MAITIMA Joseph, NJUGUNA Evanson, LAKER Christopher, KEGO Caroline, RUTEBUKA Annah M., MUGATHA Simon, MBUVI Dorcas – **Assessment of land use, vegetation and human perception on environmental changes in FITCA-EMMC sites: Bubaka, Bulamagi Sub-County, Iganga District, Eastern Uganda.** December 2003.

M7 – NJUGUNA Evanson, MAITIMA Joseph, MATERE Joseph – **Atlas of FITCA-EMMC track mapping of selected sites in Kenya and Uganda.** 30p., December 2003.

M8 – MUGISHA Samuel – Large-scale mapping of land utilization types using a GPS in Tororo District (Uganda).

M9 - MAITIMA Joseph, RUTEBUKA Annah - Assessment of vegetation and human perception of environmental changes in the FITCA-EMMC site in Tororo District.(Uganda).

M10 - MATERE Joseph, MAITIMA Joseph, KARUGA Julia - Land use/land cover change analysis for Angurai, Teso District (Western Kenya) – 2002 - 2004.

Assessment of biodiversity and natural resources

B1 – GACHIMBI Louis, MAITIMA Joseph - **Soil fertility analysis associated to land use in Eastern Uganda.** July 2004.

B2 - GACHIMBI Louis, MAITIMA Joseph - **Soil fertility analysis associated to land use in Western Kenya.** July 2004.

B3 – COLLINS Steve, WALWANDA Peter, AMBUSO Francis – **Assessment of Biodiversity in the project areas of Western Kenya – Report on Butterflies.** August 2004, 80 p.

B4 – FINCH Brian - **Assessment of Biodiversity in the project area of Western Kenya – Report on Birds.** August 2004.

B5 – MAITIMA Joseph – Assessment of vegetation in the project areas of FITCA-EMMC.

Guidelines for environmental assessment

G1 - NJUGUNA Evanson - **Land use / land cover mapping: GPS methodology.** October 2003, 25p.

G2 - MAITIMA Joseph, BOURZAT Daniel, de LACROIX Stéphanie, KARUGA Julia, RANDOLPH Tom, RUTEBUKA Annah M., TOUTAIN Bernard - **FITCA-EMMC socio-ecological survey: household questionnaires.** April 2003, 20p.

Identification and involvement of stakeholders

S1 - KANG'ETHE Erastus - **Stakeholders and organizations relevant for environmental monitoring and management in FITCA areas of Uganda.** December 2003

S2 - NJOKA Jesse T, MURIITHI Alice, RWARE Harrison - **Stakeholders and organizations relevant for environmental monitoring and management in FITCA areas of Kenya.** December 2003.

Workshops with rural communities on environment

W1 - KANG'ETHE Erastus, TOUTAIN Bernard, RUTEBUKA Annah M., MAITIMA Joseph, KARUGA Julia - **FITCA-EMMC workshops on information exchange and training with rural communities on environment: Eastern Uganda. Report and recommendations.** November 2003, 60 p.

W2 - KANG'ETHE Erastus, TOUTAIN Bernard, KARUGA Julia, MAITIMA Joseph- **FITCA-EMMC workshops on information exchange and training with rural communities on environment: Western Kenya. Report and recommendations.** December 2003, 50 p.

W3 - ASTON John, MUTEA Judith - **Training workshops on the safe use of insecticides for Tsetse control.** - Kenya, Uganda and Tanzania. June-July 2004, 29 p., 8 ann.

W4 - EJOBI Francis, rapporteur - **Report of the workshop with FITCA - UGANDA on environment, held in Entebbe on 5th August 2004,** 17 p.

W5 - MUGATHA Simon, rapporteur - **Report of the workshop with FITCA- KENYA on environment, held in Busia on 9th August 2004,** 20 p.

W6 - KANG'ETHE Erastus, MAITIMA Joseph - **Feedback workshops with communities in Eastern Uganda.** August - September 2004, 75 p.

W7 - KANG'ETHE Erastus, TOUTAIN Bernard - **Feedback workshops with communities in Western Kenya.** September 2004, 48 p.

Communication to International Conference

C1 - Bourzat D., Reid R. - **FITCA and environment.** 26th meeting of the International Scientific Council for Trypanosomosis Research and Control (ISCTRC), Ouagadougou, 1-5 October 2001.

C2 - Maitima J., Toutain B., Njuguna E., Wilson C. J., Mugatha S. - An approach of monitoring environmental impact after tsetse control in Eastern Africa. 27th meeting of the International Scientific Council for Trypanosomosis Research and Control (ISCTRC), Pretoria (South Africa), September 29th- October 3rd 2003.

Brochures

B1 - FITCA-EMMC - Recommendations made by communities in Uganda and Kenya on how to improve the environment in their villages. August 2004, 8 pages