Farming in Tsetse Controlled Areas

FITCA

Environmental Monitoring and Management Component

EMMC

Project Number: 7.ACP.RP.R. 578

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
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 Matere. 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

Part 3 – Birds recorded in Busia Township, Busia District in August 2004

- 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 understorey 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 adventists\(^2\) 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. Gramnivores 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.

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\(^2\) Adventist: 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

<table>
<thead>
<tr>
<th>Plot</th>
<th>GPS Location</th>
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</thead>
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<tr>
<td>CULT</td>
<td>36N E0647709 / N0080225</td>
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<tr>
<td>FA</td>
<td>36N E0623538 / N0050248</td>
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<tr>
<td>FLGZ</td>
<td>36N E0647727 / N0079662</td>
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<tr>
<td>MZ</td>
<td>36N E0647189 / N0079064</td>
</tr>
<tr>
<td>MZCA</td>
<td>36N E0647633 / N0079631</td>
</tr>
<tr>
<td>WDBS</td>
<td>36N E0647224 / N0078962</td>
</tr>
<tr>
<td>WDBS1</td>
<td>36N E0647615 / N0080215</td>
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<tr>
<td>WDGR</td>
<td>36N E0645755 / N0078905</td>
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</table>

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):

<table>
<thead>
<tr>
<th>Species</th>
<th>Number</th>
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<tbody>
<tr>
<td>Great Sparrowhawk</td>
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<tr>
<td>Blue-spotted Wood-Dove</td>
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<tr>
<td>White-browed Coucal</td>
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<td>Yellowbill</td>
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<td>Klaas' Cuckoo</td>
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<tr>
<td>Diederik Cuckoo</td>
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</tr>
<tr>
<td>Pygmy Kingfisher</td>
<td></td>
</tr>
<tr>
<td>Yellow-rumped Tinkerbird 2</td>
<td></td>
</tr>
<tr>
<td>Greater Honeyguide</td>
<td></td>
</tr>
<tr>
<td>Little Greenbul</td>
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</tr>
<tr>
<td>Common Bulbul 2</td>
<td></td>
</tr>
<tr>
<td>Brown-backed Scrub-Robin 2</td>
<td></td>
</tr>
<tr>
<td>Croaking Cisticola</td>
<td></td>
</tr>
<tr>
<td>Whistling Cisticola 2</td>
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</tr>
<tr>
<td>Singing Cisticola</td>
<td></td>
</tr>
<tr>
<td>Tawny-flanked Prinia 2</td>
<td></td>
</tr>
<tr>
<td>White-chinned Prinia 2</td>
<td></td>
</tr>
<tr>
<td>African Moustached Warbler</td>
<td></td>
</tr>
<tr>
<td>Dark-capped Yellow Warbler</td>
<td></td>
</tr>
<tr>
<td>Paradise Flycatcher</td>
<td></td>
</tr>
<tr>
<td>Black-headed Batis</td>
<td></td>
</tr>
<tr>
<td>Scarlet-chested Sunbird</td>
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</tbody>
</table>
Olive Sunbird
Green-headed Sunbird
Copper Sunbird
Purple-banded Sunbird
Olive-bellied Sunbird 2
Yellow White-eye
Baglafecht 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:

<table>
<thead>
<tr>
<th>Black-shouldered Kite</th>
<th>Singing Cisticola 2</th>
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<tr>
<td>Speckled Pigeon</td>
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<td>Red-eyed Dove 2</td>
<td>Paradise Flycatcher</td>
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<td>Blue-spotted Wood-Dove 2</td>
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<td>White-browed Coucal 2</td>
<td>Brown-crowned Tchagra 2</td>
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<td>Klaas' Cuckoo 2</td>
<td>Sulphur-breasted Bush-Shrike 2</td>
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<tr>
<td>Diederik Cuckoo</td>
<td>Scarlet-chested Sunbird 2</td>
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<tr>
<td>Red-chested Cuckoo 2</td>
<td>Green-headed Sunbird</td>
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<tr>
<td>Greyish Eagle-Owl</td>
<td>Bronze Sunbird</td>
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<td>African Black Swift</td>
<td>Olive-bellied Sunbird 2</td>
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<td>Red-headed Lovebird 2</td>
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<td>Pygmy Kingfisher 2</td>
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<td>White-headed Saw-wing 2</td>
<td>Baglafecht Weaver</td>
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<td>Parasitic Weaver</td>
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<td>Snowy-headed Robin-Chat</td>
<td>Black &amp; White Mannikin 2</td>
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<td>Brown-backed Scrub-Robin</td>
<td>Bronze Mannikin 2</td>
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<td>Tawny-flanked Prinia 2</td>
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<td>Purple Grenadier</td>
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<tr>
<td>Grey-capped Warbler 2</td>
<td>Red-billed Firefinch</td>
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</table>
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
10\textsuperscript{th} August 2004
16-15 - 17-20
Cool cloudy evening
11\textsuperscript{th} 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


ARDEIDAE
Black-headed Heron
Nests colonially in trees- individual flying over

ACCIPTRIDAE
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, required 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 dene 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, required open expanses (alo 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, required 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

SYVIIIDAE

Sifling 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 WDBS, 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 lusher 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

**Baglafecht Weaver**
Mainly insectivore, requires dense thickets, 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

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<thead>
<tr>
<th>Frugivore/Gramivore/Nectarivore</th>
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<td>Yellowbill</td>
<td>Siffling Cisticola</td>
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<td>Klaas' Cuckoo</td>
<td>Croaking Cisticola</td>
</tr>
<tr>
<td>Diederik Cuckoo</td>
<td>Whistling Cisticola</td>
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<td>Singing Cisticola</td>
</tr>
<tr>
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<td>Tawny-flanked Prinia</td>
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<td>White-chinned Prinia</td>
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<tr>
<td>Greater Honeyguide</td>
<td>Red-winged Warbler</td>
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<tr>
<td>Grey-backed Camaroptera</td>
<td>Grey-capped Warbler</td>
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<td>--------------------------</td>
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</tr>
<tr>
<td>Grey-capped Warbler</td>
<td>Blue Flycatcher</td>
</tr>
<tr>
<td>African Moustached Warbler</td>
<td>Black-headed Batis</td>
</tr>
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<td>Dark-capped Yellow Warbler</td>
<td>Brown-throated Wattle-eye</td>
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<td>Marsh Tchagra</td>
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<td>Brown-crowned Tchagra</td>
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<td>Grey-winged Robin-Chat</td>
<td>Sulphur-breasted Bush-Shrike</td>
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<tr>
<td>Brown-backed Scrub-Robin</td>
<td>Black-headed Gonolek</td>
</tr>
<tr>
<td>Paradise Flycatcher</td>
<td>Baglafecht Weaver</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Plot</th>
<th>GPS Coordinates</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLOT 1</td>
<td>36N E0623162 / N0048268</td>
<td>contiguous with Plots 2 &amp; 4 and cleared</td>
</tr>
<tr>
<td>PLOT 2</td>
<td>36N E0623088 / N0049147</td>
<td>contiguous with Plots 1 &amp; 4 and cleared</td>
</tr>
<tr>
<td>PLOT 3</td>
<td>36N E0623082 / N0048669</td>
<td></td>
</tr>
<tr>
<td>PLOT 4</td>
<td>36N E0623082 / N0048268</td>
<td>contiguous with Plots 1 &amp; 2 and cleared</td>
</tr>
<tr>
<td>PLOT 5</td>
<td>36N E0623607 / N0047803</td>
<td></td>
</tr>
<tr>
<td>PLOT 6</td>
<td>36N E0622881 / N0047811</td>
<td></td>
</tr>
<tr>
<td>PLOT 7</td>
<td>36N E0622861 / N0047139</td>
<td></td>
</tr>
<tr>
<td>SRQP</td>
<td>36N E0623624 / N0047782</td>
<td></td>
</tr>
</tbody>
</table>

### 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 graminivores 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

14<sup>th</sup> August 2004
11-20 - 12-30hrs
Hot and sunny
15<sup>th</sup> 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
- Baglafecht Weaver
- Black-headed Weaver
- Grey-headed Sparrow
- Bronze Mannikin
- Black-and-White Mannikin
- Fawn-bellied Waxbill

**Peripheral:**

- Striped Kingfisher
- Grey Woodpecker
- Compact Weaver
**PLOT 6**

ROADSIDE SMALL AREA OF FALLOW GRASSLAND WITH MUCH HERBACEOUS GROWTH  
14th August 2004  
12-50 - 13-50hrs

**Species:**

<table>
<thead>
<tr>
<th>Tawny-flanked Prinia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scarlet-chested Sunbird</td>
</tr>
<tr>
<td>Pin-tailed Whydah</td>
</tr>
<tr>
<td>Bronze Mannikin</td>
</tr>
<tr>
<td>Woodland Kingfisher</td>
</tr>
<tr>
<td>Yellow-throated Leaflove</td>
</tr>
</tbody>
</table>

**Peripheral:**

**PLOT 7**

SMALL AREA OF FALLOW WITH BUSHLAND, AND FIG-TREE LEADING TOWARDS SWAMP WITH INTERMITTENT SMALL SHRUBS FORMING LINKAGE  
14th August 2004  
14-10 - 15-30hrs  
Hot and sunny  
15th August 2004  
06-45 - 07-30hrs

**Species:**

<table>
<thead>
<tr>
<th>Red-eyed Dove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klaas’ Cuckoo</td>
</tr>
<tr>
<td>Speckled Mousebird</td>
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<tr>
<td>Pied Crow</td>
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<td>Ruppell’s Starling</td>
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Baglafecht 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


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 (alo 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

PASSEERIDAE
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

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

| Black-shouldered Kite           | Woodland Kingfisher                                   |
| White-browed Coucal            | Pygmy Kingfisher                                      |
| Senegal Coucal                 | Grey Woodpecker                                       |
| Blue-headed Coucal             | Lesser Honeyguide                                     |
| Klaas' Cuckoo                  | Barn Swallow                                          |
| Diederik Cuckoo                | Lesser Striped Swallow                                |
| African Black Swift            | Brown Babbler                                         |
| African Palm Swift             | Yellow-throated Leaflove                               |
| Little Bee-eater               | African Pied Wagtail                                  |
| Striped Kingfisher             | 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.


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).


Assessment of biodiversity and natural resources


B5 - MAITIMA Joseph - Assessment of vegetation in the project areas of FITCA-EMMC.
Guidelines for environmental assessment


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


Workshops with rural communities on environment


Communication to International Conference


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