



Agrisys Tanzania

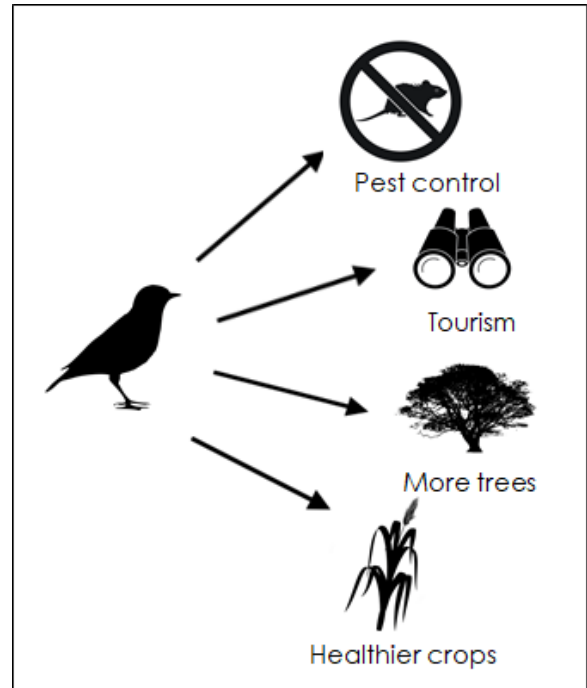
Leaflet #02
Birds in farms



BENEFITS OF BIRDS

Birds provide a wide range of benefits to humans. These include; **pest control** and **pollination** which help to produce higher yields of healthier crops, **seed dispersal** which helps to maintain forests and can generate revenue through **tourism**.

Agroforestry landscapes; where trees are planted alongside crops can attract beneficial bird species.



The benefits provided by birds can reduce the need for agricultural inputs and can help maintain environmental health.

Croplands provide an important source of food for birds. The Black-crowned Tchagra is often found in and around cropland where it feeds on insects this aids crop health through **pest control**.

Black-crowned Tchagra (*Tchagra senegalus*)



NATURAL PEST CONTROL

Natural pest control is a cost effective way of maintaining crop health and maximising yields. In Tanzania crop health and productivity is threatened by **insects, rodents** and **seed-eating birds**.

Red-billed quelea
(*Quelea quelea*)



The Red-billed quelea is a granivorous bird which is widespread across Tanzania and is a well known **crop pest**.

- It is a small brown bird with a distinctive red beak.
- It gathers in large flocks of between 150-500 individuals.
- Feeds on wild grasses but will feed on crops such as sorghum and rice when its' natural sources of food are scarce.

Controlling pest populations will help to reduce damage to crops, this can be done by encouraging the presence of **predatory bird species** in the landscape.



Predatory bird species



Can help control pest populations



Maintains crop health

Lanner falcon
(*Falco biarmicus*)



The Lanner falcon is a medium sized raptor which is a swift and agile hunter.

- Eats a varied diet of other birds, rodents and sometimes insects.
- It prefers open grassland habitats sparsely populated with trees
- Nests in crevices in rock faces and in abandoned nests of other bird species.

Eurasian Buzzard
(*Buteo buteo*)



The Eurasian buzzard is a medium sized bird with brown plumage.

- It preys on a variety of small species such as rodents, other birds, small reptiles and insects.
- This bird prefers hunting in open areas that are surrounded by thickets of forest.
- It makes use of forested areas for nesting.

NATURAL PEST CONTROL

Controlling insect pest populations is vital to ensuring good crop health. Insectivorous bird species are **natural enemies** of common insect crop pests and are an effective form of natural insect pest control.



In the Kilombero region there are six species of Cisticola.

- Cisticola are **small, brown feathered** birds.
- While difficult to spot, Cisticola can be heard and are often identified by their calls of which many species are named after.
- The **Winding Cisticola** and the **Rattling Cisticola** are some of the most common in the region.
- They feed on a variety of insects including **caterpillars, small beetles, insect larvae and grasshoppers**.
- Their preference for insect larvae can help to disrupt insect life-cycles.
- Cisticola are **common** in tropical landscapes, occurring in grassland, marshes and human modified habitats such as cropland.
- They prefer areas near **water sources**.

Winding Cisticola
(*Cisticola marginatus*)



Rattling Cisticola
(*Cisticola chiniana*)



White-throated Bee-eater
(*Merops albicollis*)



The White-throated Bee-eater

is a small, brightly coloured bird with a distinctive white throat and black eye stripe and neckband.

- This bird does feed on a variety of flying insects especially those that are **pests to livestock**.
- It occurs in a wide range of habitats but prefers forest edges, grasslands and cultivated areas.

Some common insect pests that may be controlled by the presence of birds include:

Horseflies
S



Leafhoppers
Cicadellidae



African Armyworm
Spodoptera exempta



TOURISM VALUE

Birds are of **value to the tourism industry** in Tanzania and can attract bird enthusiasts from all over the world. Tourism in the Kilombero region can be an important source of alternative income for residents.



© Pam Rasmussen

Kilombero Weaver
(*Ploceus burnieri*)



© Charley Hesse

Kilombero Cisticola
(*Cisticola [undescribed Kilombero form]*)

The Kilombero region is home to a huge variety of bird species some of which are endemic to the area, such as, the Kilombero Weaver and the Kilombero Cisticola. These birds are of both **tourism** and **scientific** value.



Silvery-cheeked Hornbill
(*Bycanistes brevis*)

The **Udzungwa Mountains** and **Magombera Forest** attract many bird watchers wishing to see species of interest, such as the Silvery-cheeked Hornbill.

The Silvery-cheeked Hornbill is **omnivorous**. It prefers **tall evergreen forests** and plays an important role in fruit seed dispersal.

Large birds of prey are known to be popular with bird watchers. The Martial Eagle is one of the largest eagles in Africa. It commonly hunts small to medium sized mammals and reptiles. Its presence in the landscape can help deter monkeys which sometimes damage crops and snakes which sometimes feed on poultry.



© Donald Lipmanson

Martial Eagle
(*Polemaetus bellicosus*)

INCREASING BIRD PRESENCE

Increasing the presence of birds in the landscape will provide many beneficial impacts to agricultural productivity and to tourism in the region. Strategies to encourage the presence of birds are **practical** and **affordable**. Strategies include:



- **Limiting human disturbance** in forested areas
- Refraining from discouraging bird presence
- **Increasing indigenous tree cover** by maintaining forested areas and planting trees
- **Planting vegetation borders** to increase the amount of beneficial birds



Planting more trees

+



Protecting existing forests



Increased numbers of birds

- **Nest boxes** can be built, this may encourage birds such as the Lanner falcon to nest within the landscape.
- **Perches** can also be erected within croplands, these have been shown to be especially effective in attracting raptors.
- Planting **strips of vegetation** such as **reeds and sunflowers** alongside cultivated areas, these provide perches for smaller birds
- Maintaining grasslands and planting grass species such as ***Brachiaria hybrid*** alongside crops may help to divert seed-eating birds from cultivated areas.



Brachiaria hybrid

Sunflower



AGRISYS TANZANIA PROJECT INFORMATION

AGRISYS Tanzania is a project (agrisystanzania@gmail.com) to research biological and human well-being benefits that can be provided by agroforestry in tropical landscapes. They work to:

1. Identify the key benefits of agroforestry
2. Identify the agricultural potential of agroforestry landscapes
3. Study sustainable agriculture practices and their link to human well being

