

UMUSAMBI URAHIGA



Identifying Environmental factors affecting the habitat  
of **Grey Crowned Crane** (*Balearica regulorum*) in and  
around Nyungwe National Park, Rwanda:  
Research project Findings

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# Special thanks go to:

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- African Parks/ NMC
- NYAMASHEKE District Authorities
- Community members
- Key stakeholders
- Research mentor
- Field assistants



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of **Grey Crowned Crane** (*B. regulorum*) in and around  
NNP

# Why Nyungwe National Park

- Key Biodiversity Area;
- 1068 plant species
- More than 300 bird spp
- 86 mammal species including 13 primate spp
- Tourism destination (~ 1900 0 before COVID-19
- Pop. Up to 700 peop./km<sup>2</sup>
- Habitat changed over time

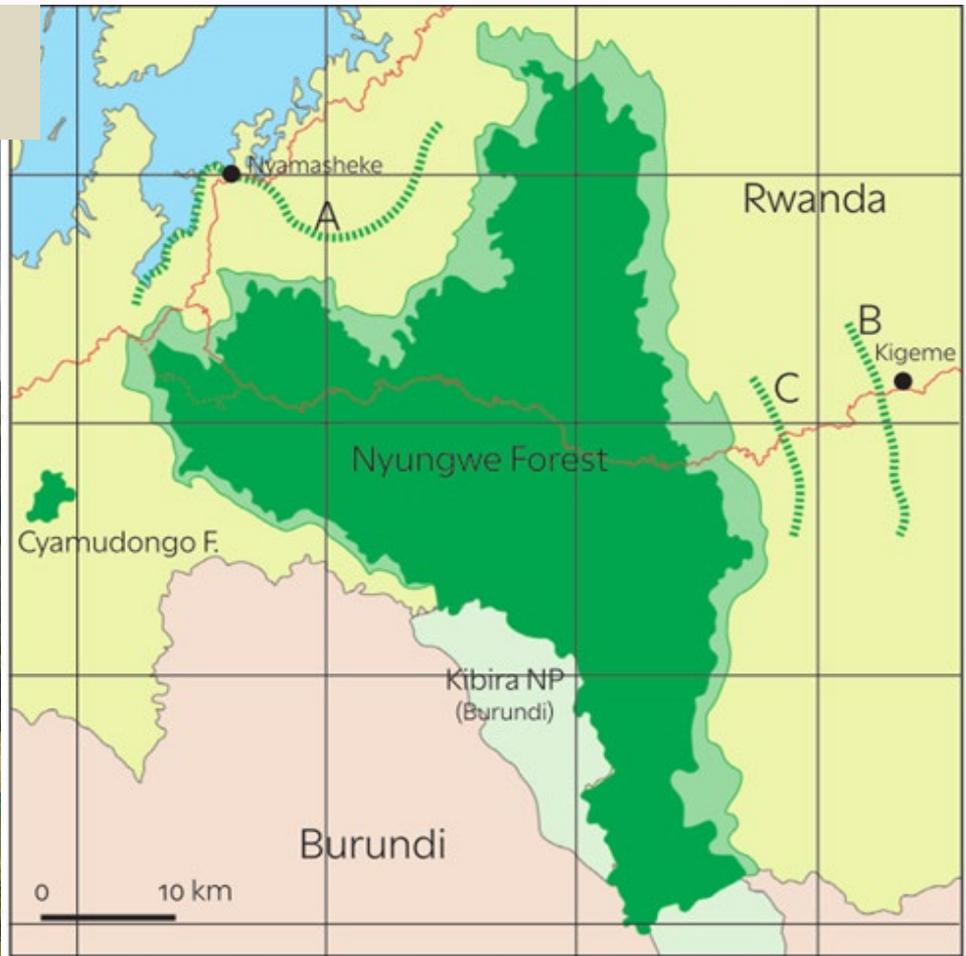


Identifying Environmental factors affecting the habitat of **Grey Crowned Crane** (*B. regulorum*) in and around NNP

# Why Nyungwe National Park?



1,019 km<sup>2</sup>  
Alt. 1600 – 2950 m



## Development History

# Background of the study – Endangered sp.



Grey Crowned Crane population is declining in the world from 17,700-22,300 (2018) from >100,000 mature individuals in 1985. Nearly 80% of the population was lost in 33 years.

# Background of the study – Endangered



In Rwanda, Grey Crowned Crane sp. is classified as Endangered species and it is protected by Law governing biological diversity (Official Gazette n<sup>o</sup> Special of 11/11/2021)

# Background of the study

Size: 112cm

Diet: omnivores

Major habitat: wetlands

Life span: 20 years

## Major Threats:

- Live capture
- Killing for food
- Stone throwing
- Egg collection
- Habitat loss and Degradation



Grey Crowned Cranes depends on wetlands for nesting, feeding and breeding.

They live in pair or gather up to several individuals in flock

# Overall Objective of the Study



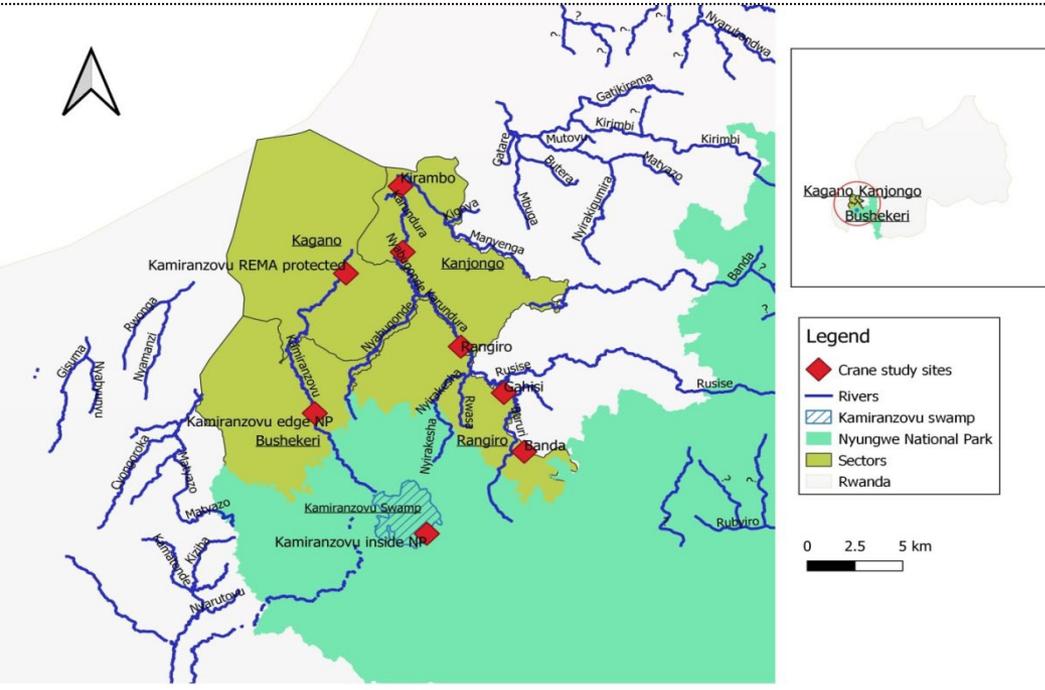
To provide information necessary for park managers to make decisions on the conservation of Grey Crowned Cranes (*B. regulorum*), and prevent local extinction of this Endangered species

# Specific Objectives of the Study



- (1) to identify spatial distribution range of Cranes in wetlands in and around NNP,
- (2) to assess the threats facing the Cranes and its habitat in and around NNP,
- (3) to conduct population size survey of Cranes in selected wetlands around NNP
- (4) To assess the quality of habitats for (*B. regulorum*).

# How? Methodologies and Approaches



**Bird counting** - Reconnaissance transect walk (February – June 2022)

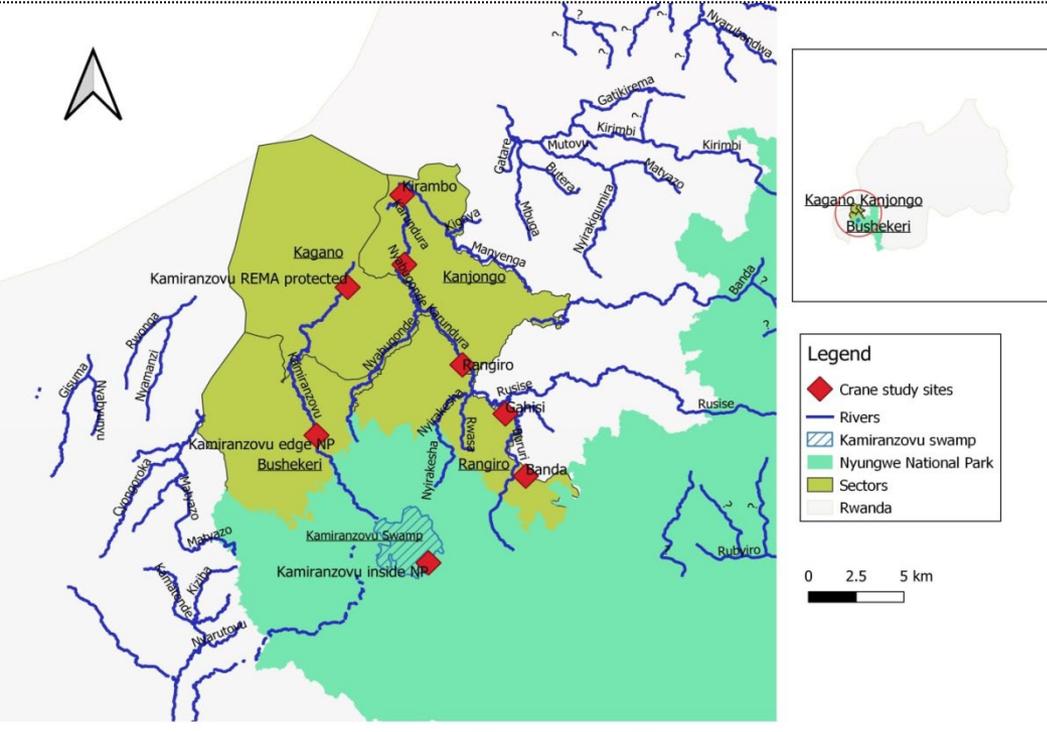
Quadratic plots (0.5 m x 0.5 m) – 57 plots

Qualitative interview – 68 people (52% male & 48% female)

Key informants 15

# What did we Find?

## Results



## Demographic information of the respondents

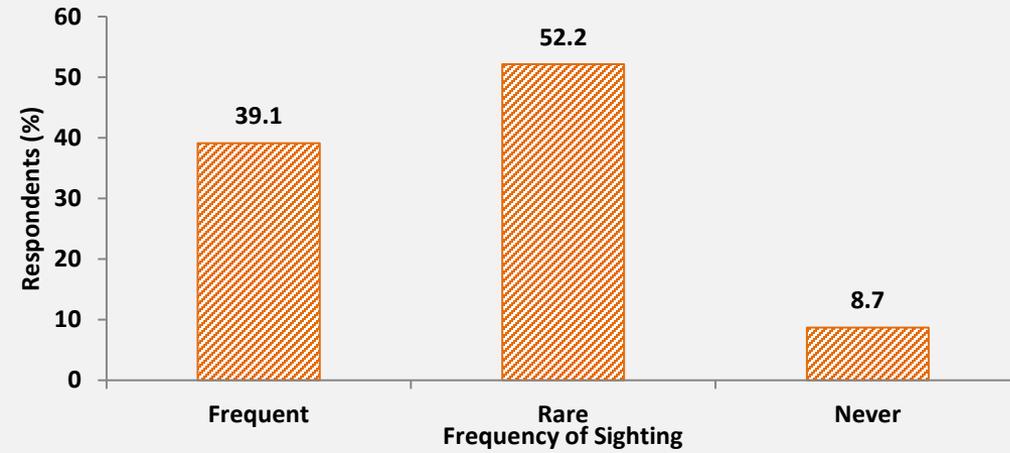
Age group of respondents ranged from 18-30 (20.2%), 31-40 (30.4%), 41-50 (21.7%), and older than 50 years (27.5%);

Lived in the area from 6 to 10 years (7.2%); 10-15 years (8.6%); 15-20 years (17.4%) to more than 20 years (66.6%).

# What did we Find?

## Results

### Crane sighting



Sites	Months					Total
	February	March	April	May	June	
Kamiranzovu REMA protected	2	0	2	4	4	12
Kirambo	2	8	11	2	4	27
Munini	0	0	0	0	0	0
Gahisi	0	0	0	0	0	0
Rangiro	1	2	2	0	0	5
Kamiranzovu edge NP	0	0	0	0	0	0
Kamiranzovu inside NP	0	0	0	0	0	0
Banda	0	0	0	0	0	0
<b>Total</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>6</b>	<b>8</b>	<b>44</b>

# What did we Find?

## Threats to Cranes



- The majority of people interviewed said wetlands are used for agriculture (95.5%); fodder collection (4.5%).
- Cranes killing (3%), stone throwing (12%), live capture (2%) & egg collection (3%) were reported as threats to cranes by interviewees
- 78.4% of 57 sampled plots had signs for fodder collection
- 55% of sampled habitat was fallow crop, followed by relatively undisturbed swamp (27%), and agriculture (18% of total sampled plots).

# What did we Find?

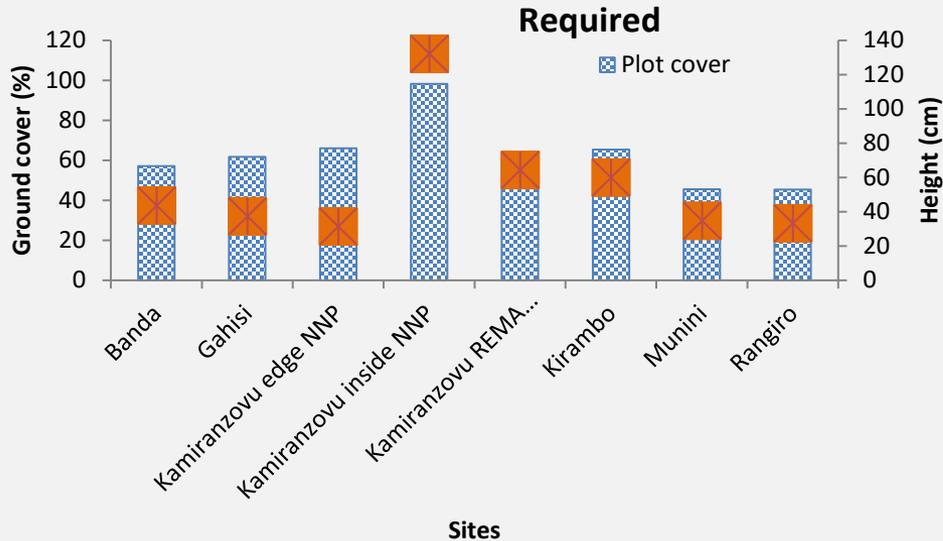
## Perception of farmers on Crane Crop Raiding



- The majority of respondents (72%) said that they are not aware of cranes damaged/raided crops
- 28% said that cranes raided their crop especially maize
- Out of 14 people who experienced crop raiding by cranes, 11 (78.4%) said that the severity of crop raiding was low while 3 (21.4%) said that crane crop raiding was high.
- None of rice grower said that cranes are rice raiders.

# What did we Find?

## Habitat quality



- Wetland vegetation (less disturbed) occupied 25% of all sampled plots and were in 3 (33.3%) sites. Fallow cropland and cropland occupied 38.3% and 22.9% respectively
- Average plot ground cover ranged from 55% (Rangiro) to 89% (Kamiranzovu swamp inside the NNP).
- Average height ranges from 31.5 cm (Kamiranzovu edge NNP) to 132 cm (Kamiranzovu inside NNP).

# What did we Find?

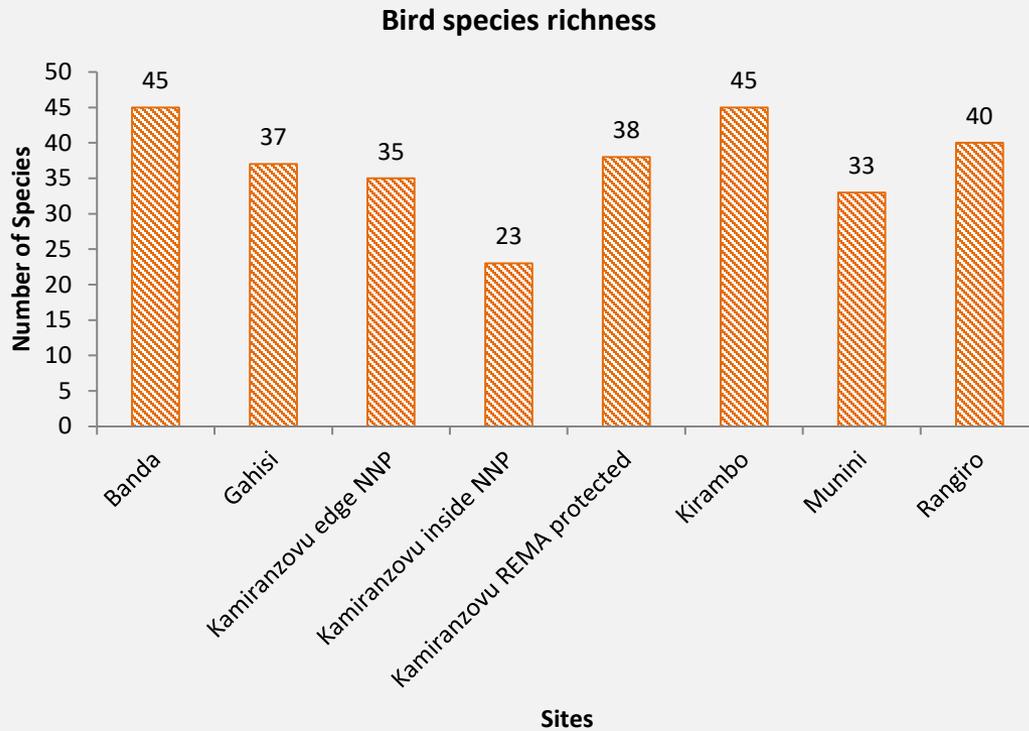
## Habitat quality



sites	# plot	Percentage (%) of Habitat type			
		Bare ground	Cropland	Fallow cropland	wetland vegetation
Banda	12	0	0	100	0
Gahisi	6	0	0	6	0
Kamiranzovu edge NNP	6	16.7	16.7	66.7	0
Kamiranzovu inside NNP	6	0	0	0	100
Kamiranzovu REMA protected	9	0	66.7	0	33.3
Kirambo	6	0	33.3	0	66.7
Munini	6	0	50	50	0
Rangiro	6	0	16.7	83.3	0
Average		2.1	22.9	38.3	25.0

# What did we Find?

## Other bird species



- **104 bird species** including cranes were recorded in surveyed sites (~1/3 of bird species in NNP)
- **34 species** of birds (~1/3 of recorded species appeared in 50% or more sites we surveyed).

# What is the future of Cranes in studied wetlands?



- **About 10-20 cranes live in wetlands outside NNP**
- Their habitat is being progressively converted into agriculture lands and upland soil erosion and mining practices.
- So called remaining habitat is being threatened by grass/fodder collection
- However, the swamps remain habitat of 104 bird sp. making them a good birding sites

# What is the future of Cranes in studied wetlands?



- The survival of cranes and other bird species in wetlands of NYAMASHEKE depends on YOU and FARMERS.
- Calling for your conservation interventions and recommendations.

Thank you

**Question, Contribution or Comments?**



**Very Appreciated.  
Thank you**