

# Reconciling food production and environmental protection in Kigali Urban Wetlands- Case of Nyabugogo Wetlands

By  
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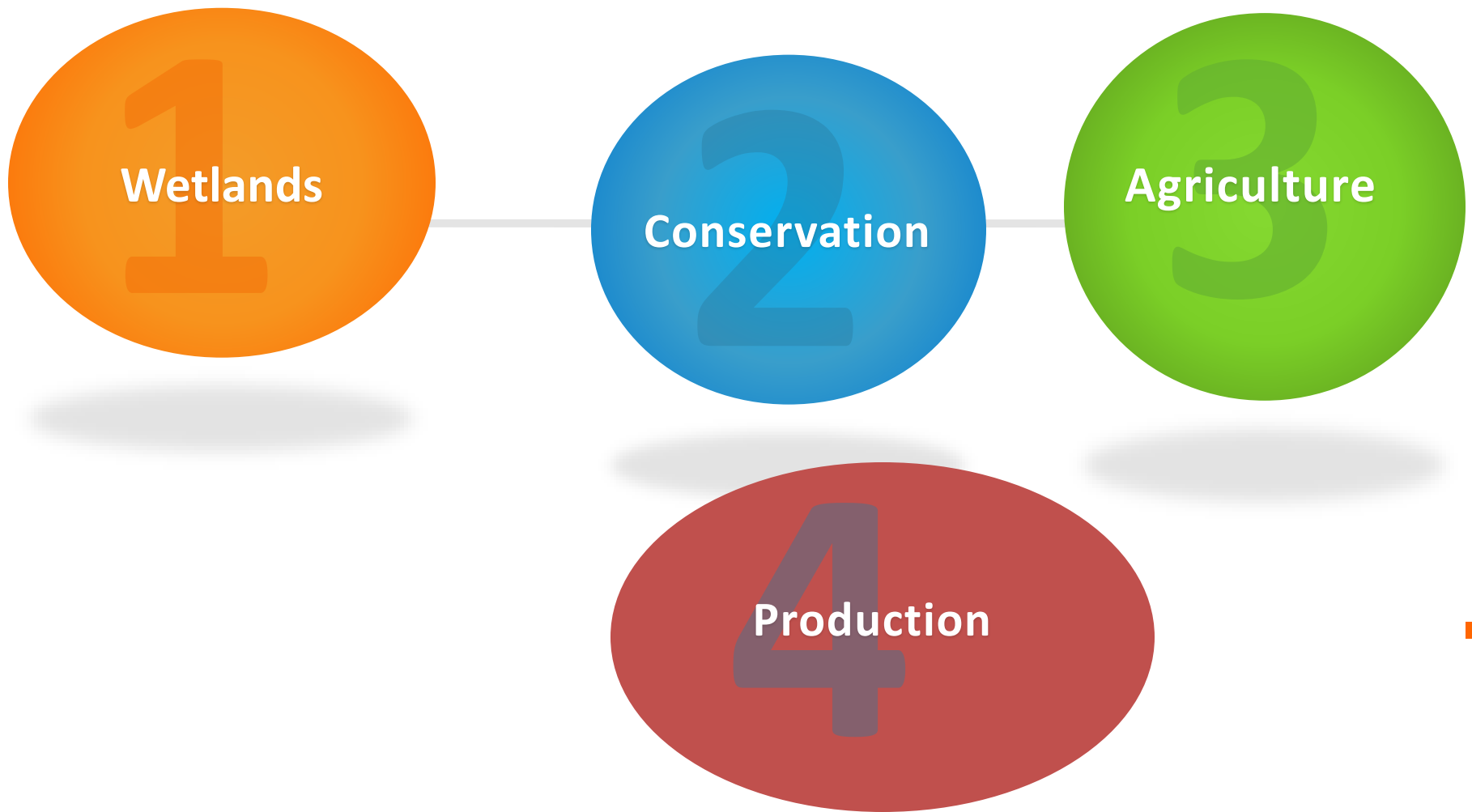
World Bank Group  
Kigali, Rwanda



# Presentation structure

- 1. Introduction***
- 2. Objective and Research Question***
- 3. Materials and Methods***
- 4. Results and Discussion***
- 5. Way Forward***

## *Kigali Urban Wetlands Management- Food vs Conservation*



- ✓ Kigali Urban wetlands covers 10.6% , from reduction of 14% in Kigali Master Plan 2013.
- ✓ 50% of Kigali Wetlands have lost their ecological character
- ✓ Kigali City wetlands Potential areas for agriculture is 12.5%
- ✓ High Population density put pressure on Agriculture productivity and Urban wetlands wise use



# Objective and Research Q

- **Raise awareness to reconcile urban wetlands wise use and Food production.**
- **How could we balance the two?**



# Methods

## Step 1



Desk review

## Step 2



Household survey;  
Focused group  
discussion;  
Transect walk;  
Field observations

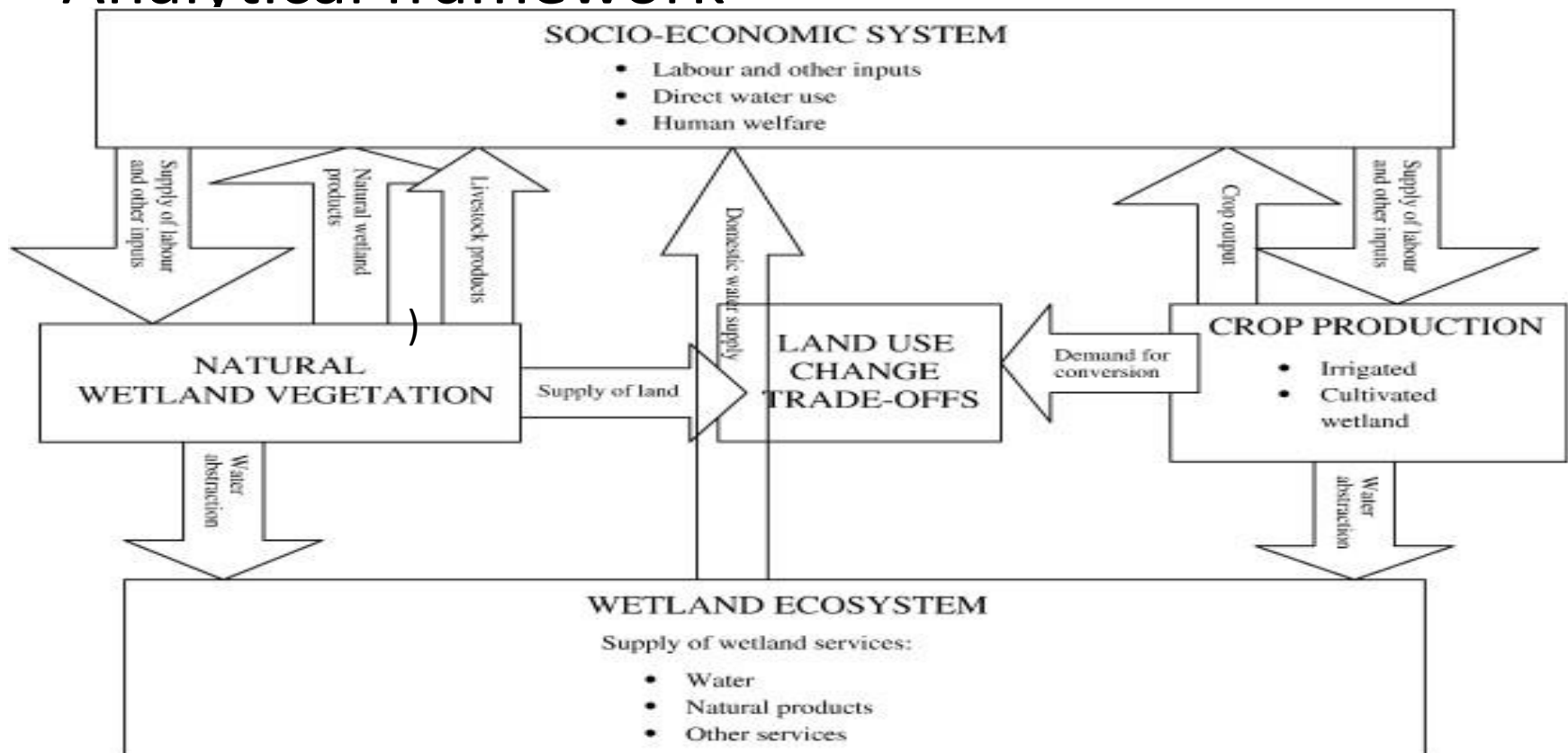
## Step 3



RAMSAR Guidelines to use  
wisely the wetlands

[Jogo & Hassan, 2010](#); [Swallow et al., 2009](#))

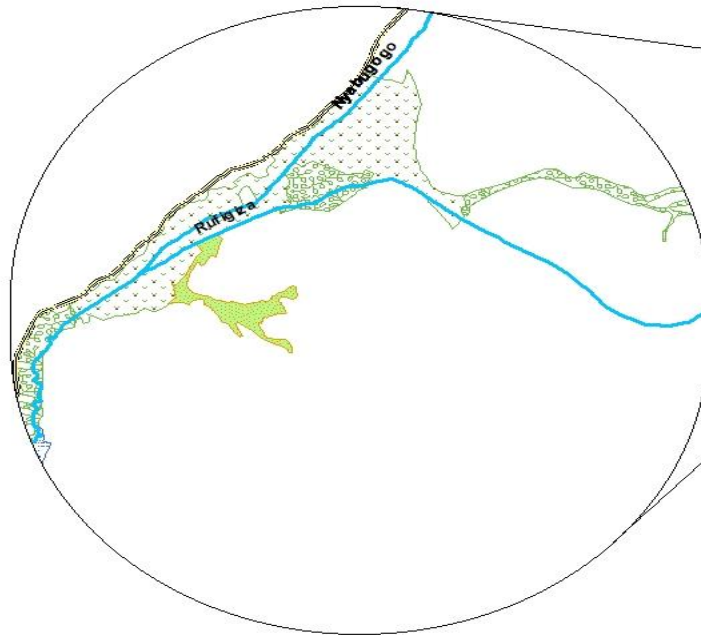
## Analytical framework



# Study areas

C

Study Area: Nyabugogo Wetland



## Legend

Rivers

## Wetland Landuse

Rice

Other Crops

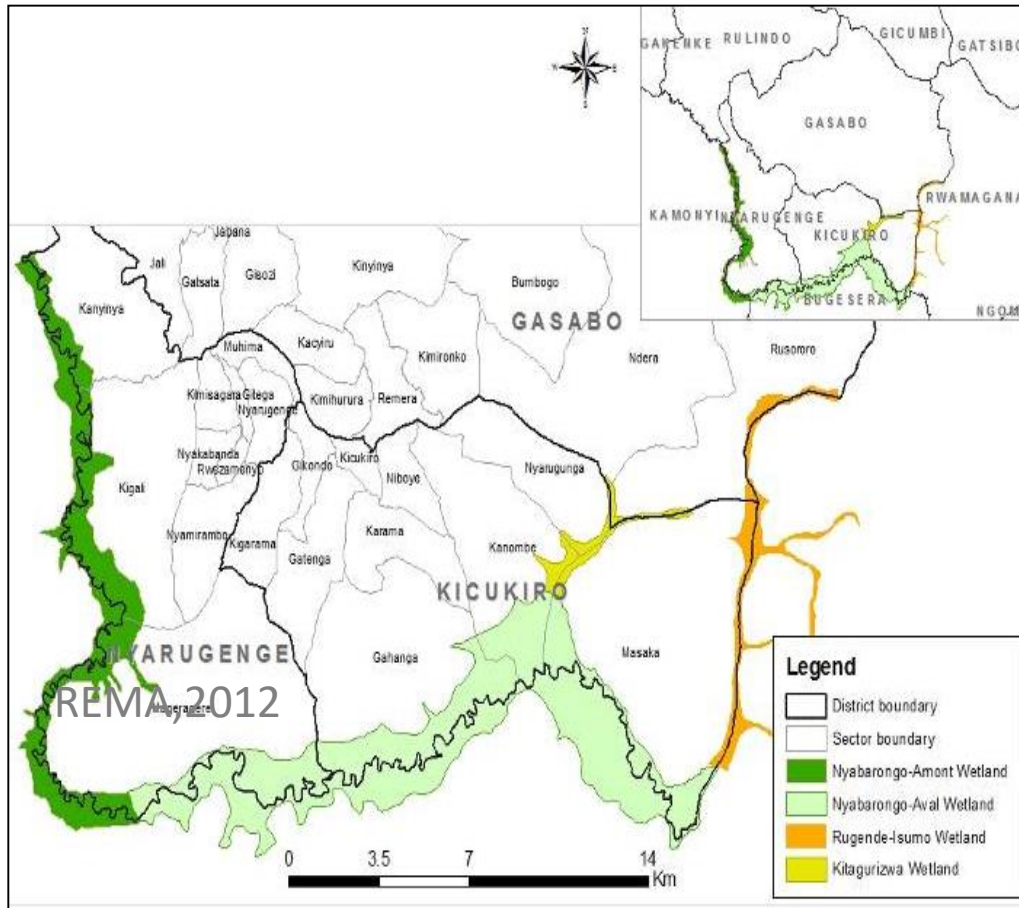
Pasture

Papyrus

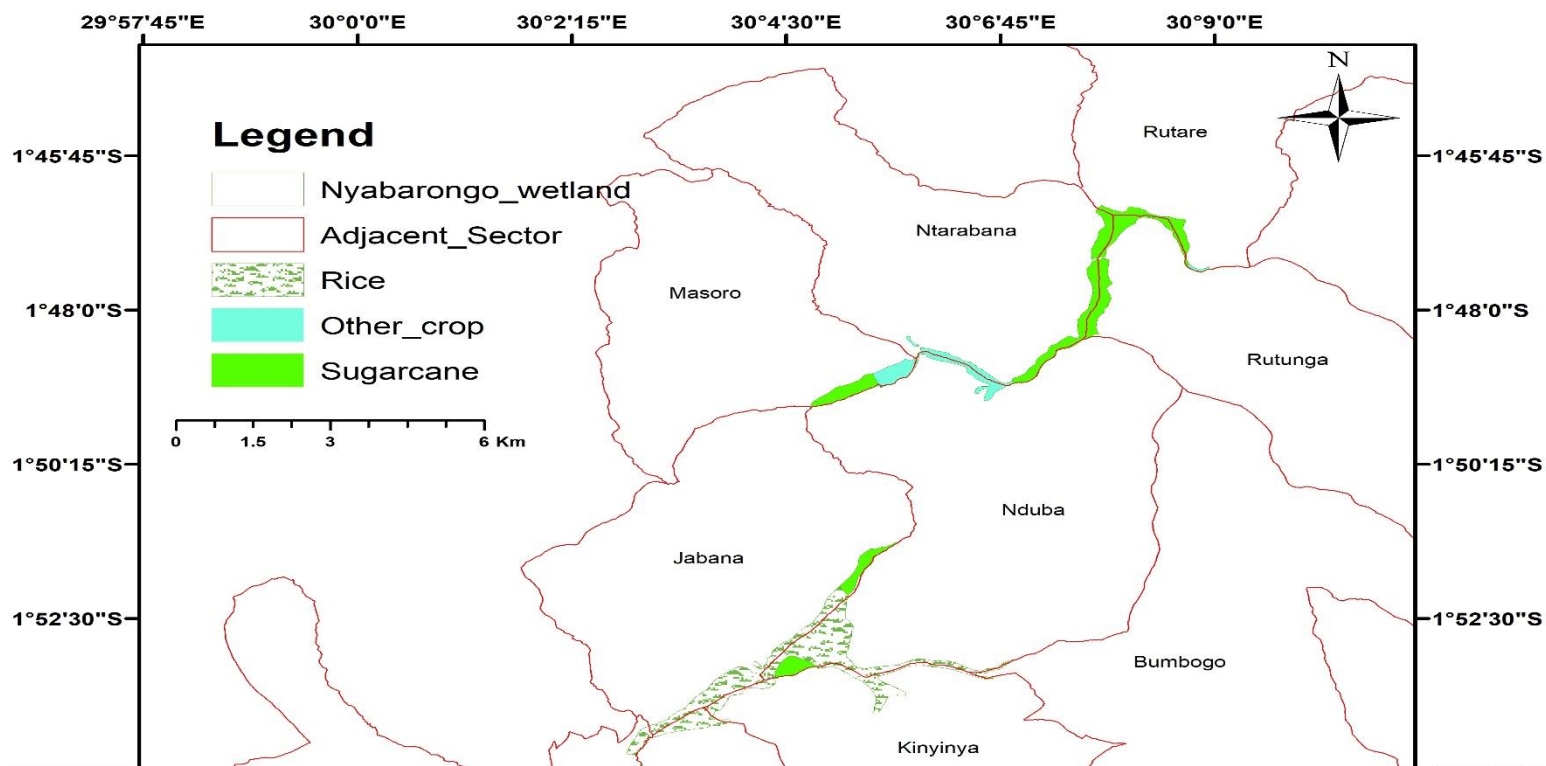
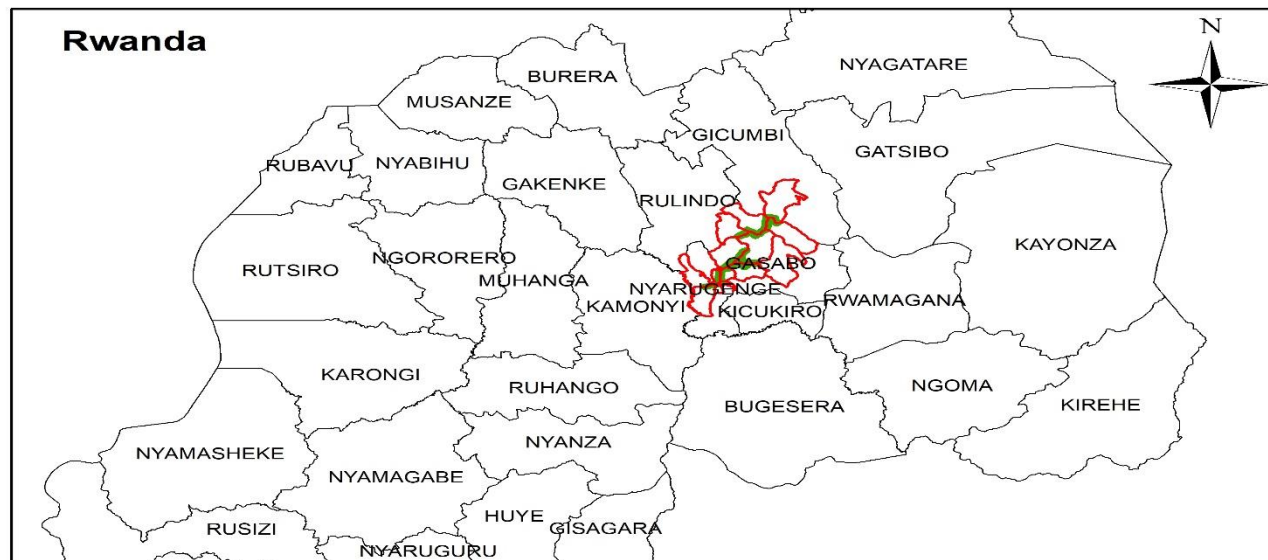
Type\_Main\_roads



# Study area description

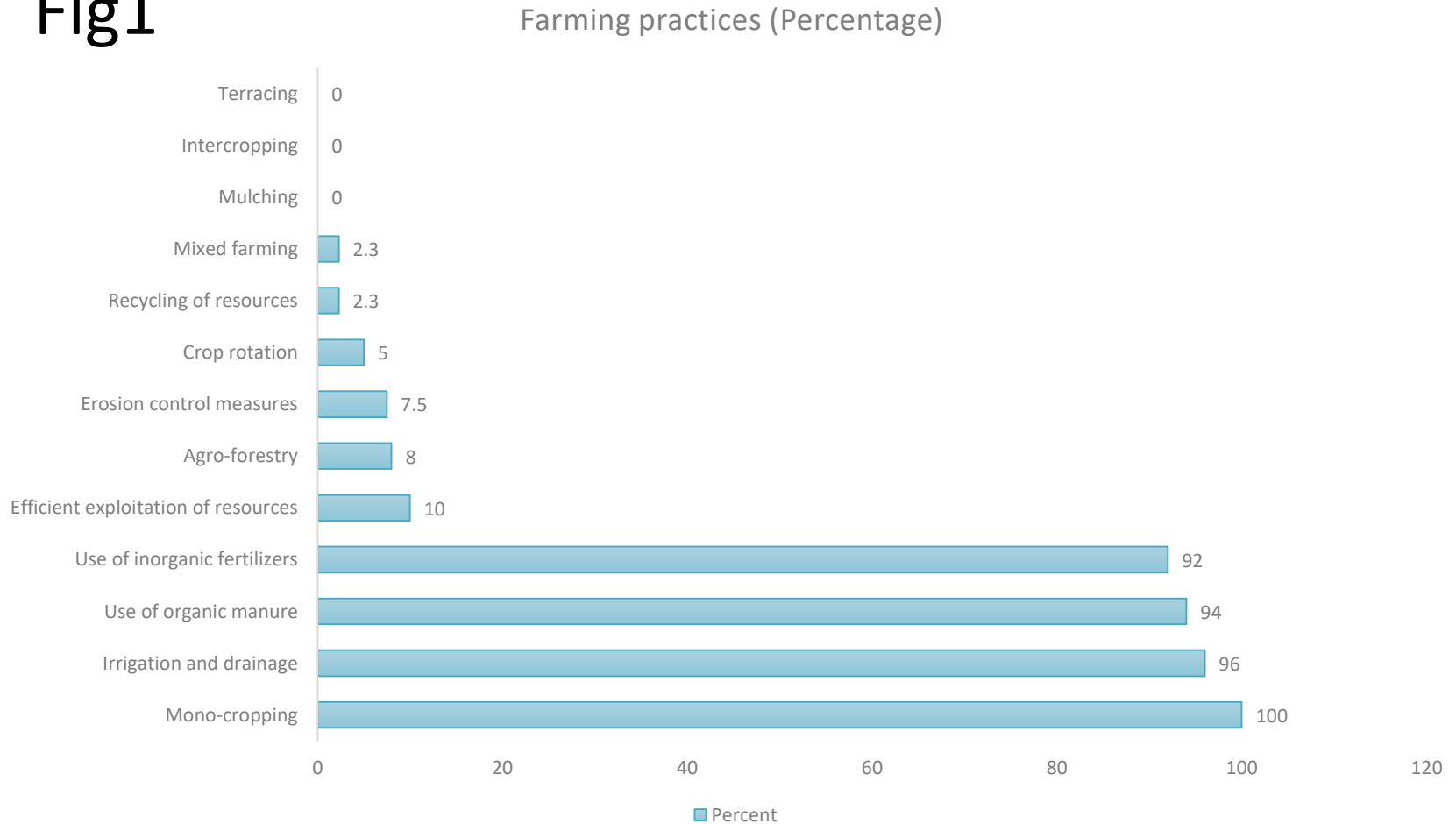


- ❑ The region is bordered by the **great marshy Nyabarongo River** to the **west and south** and the Lake Muhazi to the north;
- ❑ The eastern boundary of the Kigali is marked by a series of streams including the **Rugende, Isumo** and Rusasa that drain into the Nyabarongo;
- ❑ The Kigali City region is **mainly drained by the Nyabugogo River**, a main tributary of the Nyabarongo, which is fed by the Lake Muhazi outflow, the Kaguhu and several smaller streams;
- ❑ The Nyabugogo River begins at the confluence of the Lake Muhazi outflow and the Kaguhu stream in the north-east of the study area;
- ❑ The Nyabugogo flows **south to the Kigali main city area** where it is joined by other smaller streams and turns south-west to join the **Nyabarongo River**.
- ❑ The river skirts the Kigali main city area marking the southern boundary of the study area, eventually turning south joining with the **Akanyaru River** to form the great Akagera River that flows into Lake Victoria.



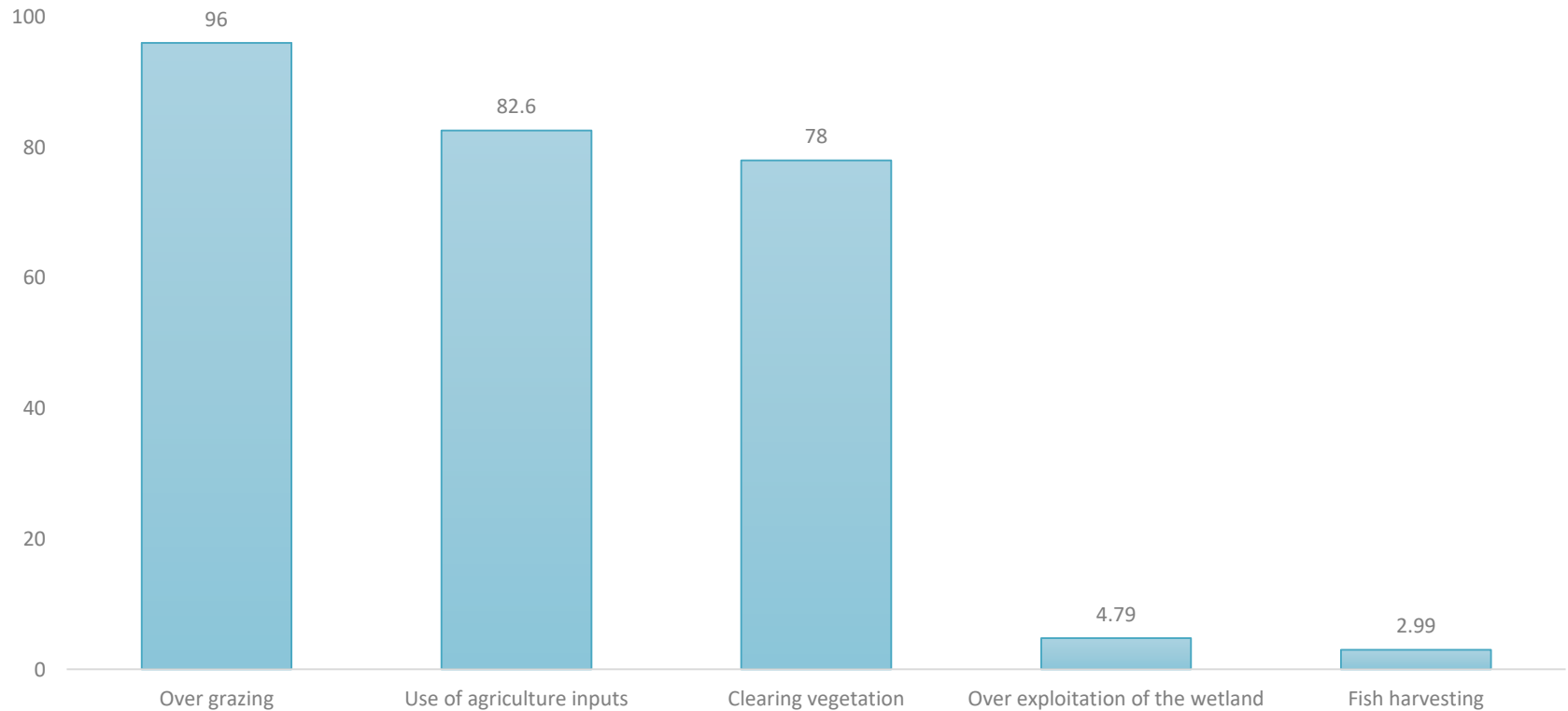
# Results and Discussion

- Fig1



# Urban wetlands use

• Fig 2



# Conflicts between Sectors and Resources

## Sector

- Agriculture
- Urbanization
- Tourism
- Human settlement
- Energy
- Irrigation
- Transport
- Industrial

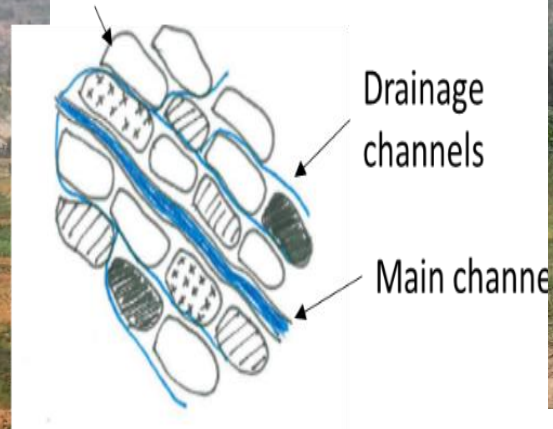
## Sources

- Environment
- Biodiversity
- Land
- Water
- Forest
- Mining

# Agricultural Land -Use categories in Wetlands



Varied plots



# Challenges and Gaps in Urban Wetlands Governance- Ramsar 2017

## Challenges

- Conflicting policies and laws(Weak institutions)
- Weak enforcement tools
- Lack of compliance at local level

## Gaps

- Weak coordination and cooperation
- Low institutional capacity
- Political interference



# Key Challenges

Conflicting institutions (policies and laws): Irrigation vs Water Conservation

Coordination challenges: Central vs Local authorities

Undefined roles among the multiple organizations involved in implementation of rules

Conflicting definitions and uses of the resource

Uncontrolled immigration into the Urban wetland:

- ✓ Erosion of existing traditional institutions
- ✓ Pressure on institutions

Property rights

-Not well defined

-Poorly enforced

-prioritization not well captured

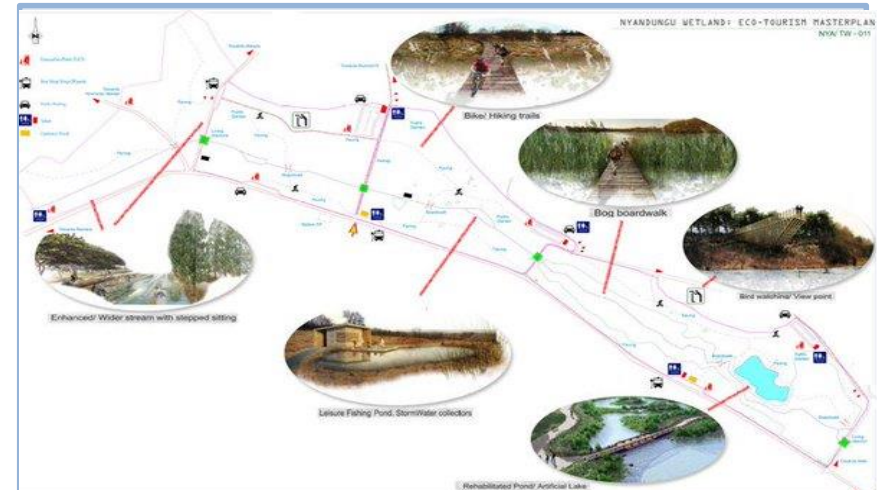
-pricing mechanisms not efficient



## Drivers for changes and balance- Rwanda

- Political commitment
- Strong institutional set up:  
Natural resources Authority in 3:  
(Forest&Water, Land Management  
&Mining Board- then Water B)
- *Natural Resource Ministry in 2 (Aug. 2017), then in 1( Nov. 2018):*
- ✓ Water and Wetlands hanging.....then  
Board establishment (Nov. 2018);
- ✓ Organic law are being repealed:  
**Conflict between environment and  
development: Irrigation vs  
conservation?**

## Challenges ahead



## Drivers for Urban wetlands Wise use

- **Political Interest**
- ***National Interest***
- ***Geo-politics and Geo-economics***  
(Regional & International Intergration)- Regional Water conservation: Think locally and react globally (Funding)!
- ***Dealing with Inconsistance-Incoherence-inefficiency***
- ***Promoting wise use of wetlands through nature based solutions***

## Take-home message



The background features a blue sky gradient, a green grass field at the bottom, and a stylized blue swirl graphic on the right side. A dark blue rectangular box is positioned in the center-left, containing the text.

ASANTE SANA!