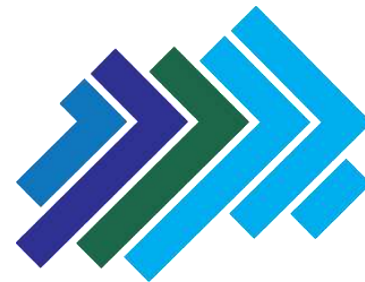


# **Annual Water Conference**

**Water Programmes and Projects  
with International support**

**Introduction to Upper Nyabarongo  
Catchment Plan (2018-2024) and  
Implementation packages**

**20<sup>th</sup> March 2018**



**WATER  
for GROWTH  
RWANDA**

# Outline

- Overall objectives
- Key Features
- Key issues
- Key opportunities
- IWRM Packages
- Way forward

## **Overall objective Catchment Plan:**

**Effectively manage land and water resources to contribute to sustainable socio-economic development and improved livelihoods in Upper Nyabarongo taking into consideration downstream needs.**

1. Improve water quality and quantity in water bodies and taking into account resilience to climate change in the catchment;
2. Ensure equitable and efficient allocation of water resources to all users within the catchment taking into account downstream demands;
3. Strengthen the water governance framework to ensure effective implementation of integrated programs;
4. Reduce the pressure on natural resources by diversifying alternative livelihoods.

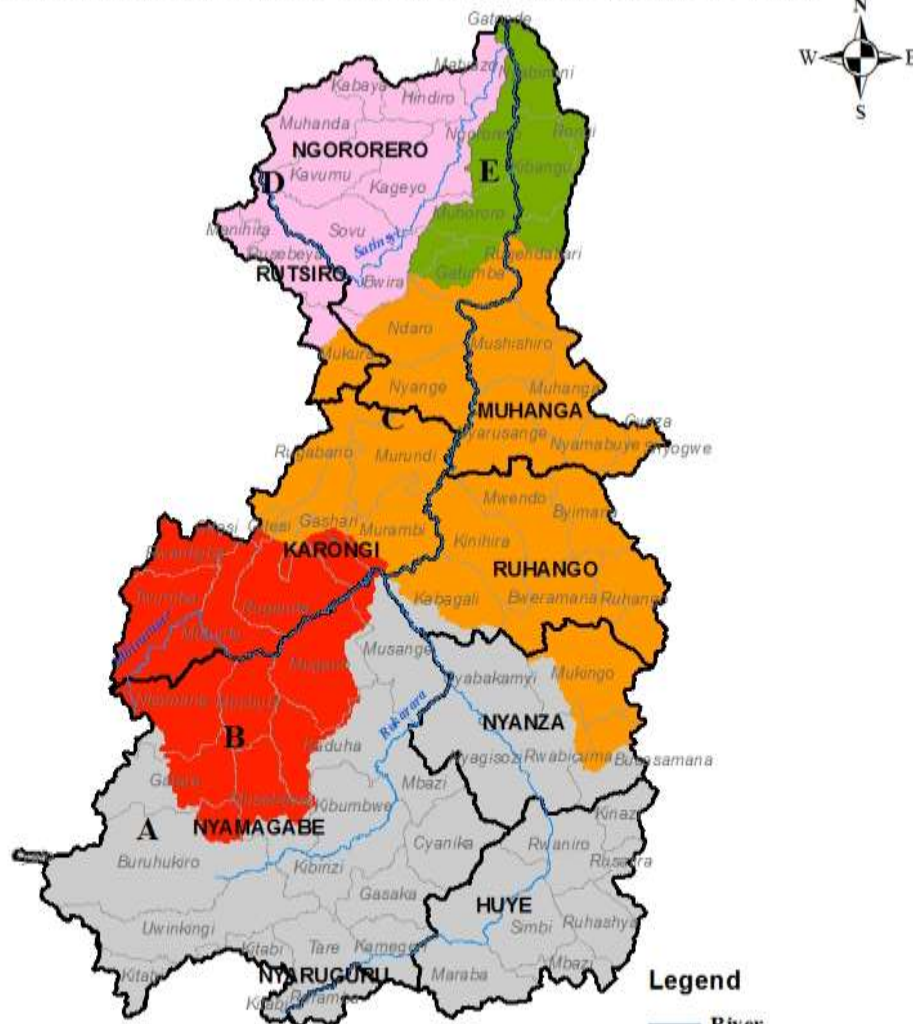


# Key features: Land use: Km2

- **Total area: 3347 km2**
- **8 Districts : Muhanga, Ngororero, Karongi, Rutsiro, Nyamagabe, Huye, Nyanza, Ruhango.**
- **67 Sectors**
- ✓ Rainfed agriculture: 1399.21 (41.8.9%)
- ✓ Forest: 1225.8 (36%)
- ✓ Area for new forest plantation : 610.56 (18.24%)
- ✓ Wetlands : 84.27( 2.5%)
- ✓ Grass land 77.04 (2.3%)
- ✓ Main river buffer zone: 7.62 (0.2%)
- ✓ Other lands: 7.33 (0.2%)
- ✓ Settlement area: 4.2 (0.1%)
- ✓ Dam Reservoir: 3.52 (0.1%)
- ✓ Water body: 2.29 (0.06%)
- ✓ Tree belt: 1.27 (0.03%)
- ✓ Shrubs: 0.95(0.02%)

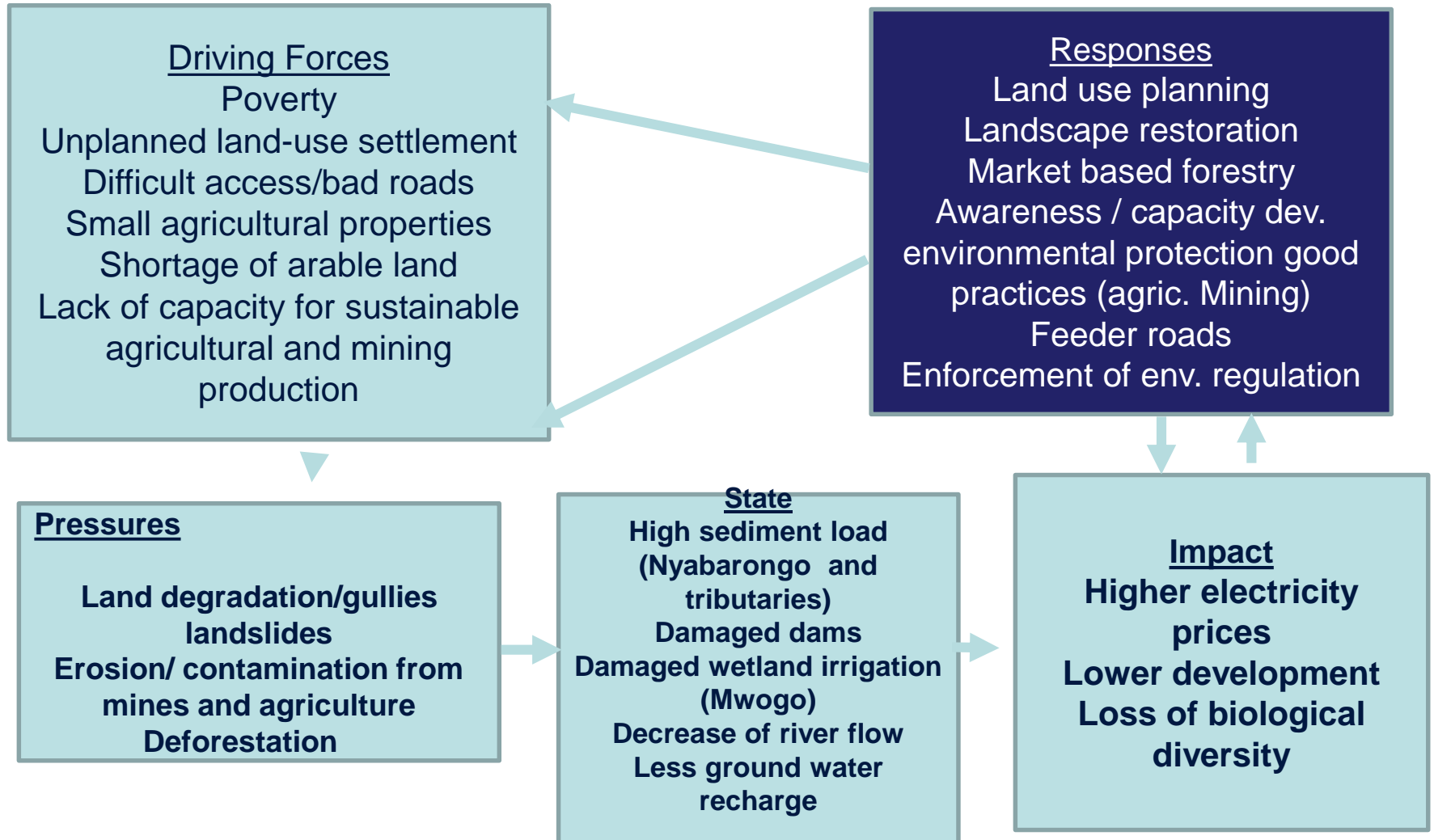


# UPPER NYABARONGO Catchment: Administrative Map



- Legend**
- River
  - District
  - Sector
  - Subcatchment Name:**
  - A (Mwogo)
  - B (Mbirurume)
  - C (Hydropower)
  - D (Satinsyi)
  - E (Nyabarongo Upper)

# Key issues through DPSIR analysis



# Unprotected feeder-roads (Kiryango, Mbirurume SC)



# Flooded areas (Kiryango)





# Sediments in Mbirurume at the confluence with Mwogo



## Degraded dams for marshland irrigation: Kiryango & Mwogo



# Unprotected riverbank: Mbirurume SC



## Degraded land, high erosion risk and gullies: Mbirurume SC



# Unsustainable mining: Nyabarongo Hydropower SC



# Main Opportunities and economic drivers

Sub catchment	Economic drivers	Districts
Nyabarongo Upper	Mining/ Smallholder Agriculture, Hydropower	Ngororero, Muhanga
Satinsyi	Mining/ Small holder Agriculture Forestry	Rutsiro, Ngororero
Hydropower	Hydropower/ Mining/ forestry/ smallholder marshland irrigation	Muhanga, Ngororero, Karongi, Ruhango, Nyanza
Mbirurume	Tea/ Forestry, Water tower Tourism, hydro power, horticulture, beekeeping	Nyamagabe, Karongi
Mwogo	Tea, coffee, Water tower National Park, tourism, hydropower Irrigated horticulture	Nyamagabe, Huye, Nyanza, Ruhango

# W4GR ongoing interventions

- Landscape Restoration project around Nyabarongo I  
Hydropower: Ngororero (Nyange, Ndaró sectors), Muhanga  
(Mushishiro sector): 1,102.1 ha
- ✓ Terraces and agroforestry:
- ✓ Afforestation,
- ✓ Gullies rehabilitation,
- ✓ River buffer zone protection (dam and stream).

Progress so far: 91.9% (January 2018)



# EIP Progress





# Selected IWRM Packages

- 1. Landscape restoration and water resources protection for the viability of ecosystem services in Mbirurume watershed: LWAPES**
  - *Land husbandly and landscape restoration in priority degraded areas (terraces & agroforestry, gullies rehabilitation, afforestation riverbank protection, IES),*
  - *Rain water harvesting in residential areas and boarding schools,*
  - *Improved cooking stoves to selected HHs and boarding schools,*
  - *Support to hydrological and topographical study for economic value of water of pico- hydropower,*
  - *CCI: Capacity building in Climate smart agriculture and sustainable mining*



## 2: Landscape restoration and protection of water bodies in Mwogo watershed (LAPROM)

- *Land husbandry and landscape rehabilitation around Mwogo , 2 Dams and 6 tributaries (terraces & agroforestry, gullies rehabilitation, afforestation, riverbank protection, IES),*
- *Support to feasibility and detailed design study for the development of Musange Pico hydropower,*
- *Rain water harvesting water drainage and water storage for floods mitigation in priority settlement areas,*
- *Land husbandry and landscape restoration around Rukarara river,*
- *Landscape Restoration and promotion of forestry for Sustainable Livelihood in Mwogo Catchment Area*



### **3: Landscape Restoration supporting sustainable and efficient investments in agribusiness, mining and hydropower generation in the most degraded sites of the Nyabarongo watershed**

- Feasibility Study for a pilot project for demonstrating cleaner production and resources efficiency in mining sites around Secoko stream in Ngorororero District.

# Way forward

- Continue DDS and SSPs alignment
- Conduct feasibility studies for selected packages focusing on integrated measures and demonstrative areas
- Conduct detail design for approved feasibility studies
- Implementation of approved project design
- Support to coordination of IWRM stakeholders





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