

# VIABLE & SUSTAINABLE OPTIONS FOR PROTECTING RIVERS IN KENYA

Presentation to the Kenya Alliance of Residents Association (KARA)

Laico Regency, Nairobi  
16 September 2019

Henry Ndede  
Special Adviser  
Governance Affairs Office  
United Nations Environment Programme

---

---

---

---

---

---

---

---

## TYPES OF RIVERS

Over 3,000 Rivers of all Categories in Kenya (Ref WRMA)

Permanent | Seasonal | Springs | Wetlands | Emergent Ghost Rivers

1. Urban
  - Nairobi | Sosian
2. Trans-boundary | Cross-Border
  - Tana | Athi-Sabaki | Tsavo | Ramisi |
3. Sub-terreanean
  - Westward Drainage into Lake Naivasha | Many rift valley lakes
4. Man-Made
  - Urban drainage channels | sewer systems |

---

---

---

---

---

---

---

---

## Water Tower Catchments

1. Mau Forest Complex – more than 13 rivers:
  - Mara | Sondu | Nderit | Molo | Makalia | Uaso Nyiro S | Nzola | Kujja
2. Aberdares:
  - Tana | Uaso Nyiro N | Malewa | Gilgil | Chania | Sagana
3. Mt. Kenya:
  - Tana | Nanyuki | Several tributaries
4. Mt. Elgon | Kakamega Forests | Nandi Hills
  - Sio-Malakisi | Yala | Nyando | Kibos
5. Kikuyu Escarpment & Ngong' Hills:
  - Nairobi River System



---

---

---

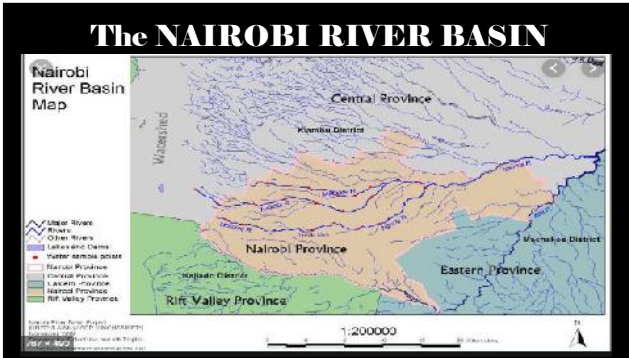
---

---

---

---

---



---

---

---

---

---

---

---

---

**VALUE**

- Fresh water supply
  - Domestic
  - Industrial
  - Agricultural
- Hydro-electric power plants
- Irrigated agriculture
- Ecological infrastructure
- Flood/Storm water drainage
- Ground-water recharge
- Biodiversity sanctuaries
- Micro-climate regulation
- Auto-purification/oxygen

---

---

---

---

---

---

---

---

**CHALLENGES**

1. Catchment degradation/alteration
  - Reduced flow volume from watersheds – lost forest cover
  - Increased flow from built-up urban areas – impervious surfaces
2. Pollution
  - Siltation & physical appearance - turbidity
  - Altered water chemistry in urban areas – Clean is NOT Clean!!
  - Public Health Impact – Case of Nairobi River – Health Burden
3. Diversion
  - Natural change of river courses – low gradient
  - Canalized river cause in urban areas – training of rivers

---

---

---

---

---

---

---

---

## OPTIONS

### VIABLE

1. Waste management
2. Create Buffer Zones
3. Monitor Water Quality
4. Integrated Urban Planning
5. Participatory Engagement
6. Applied Research

### SUSTAINABLE

1. Commercial/Recreation User
  - Eco-tourism | Residents & Tourists
  - Water ways | Impoundments | Walkways
2. Legal Protection – Laws & Regulations
  - Adequate: EMCA | Water Act | Agriculture
3. Value Proposition – Ecological Asset
  - Urban Water-front Development
4. PPP – Adopt-A-Mile – viable Segments
  - Robust Planning
  - Tax Incentives/Rebates
  - Public Participation
  - Institutions of Learning

---

---

---

---

---

---

---

---

## YOUR GUIDE...YOUR ROLE

1. Public Awareness & Participation
2. Train Community Para-legals Association Level
3. Promote Citizen Science through Universities
4. Responsible Care : Private Sector Partnership

### Lobby Government

1. National & County Executive
2. Parliament & County Assemblies
3. Judiciary – Litigation based on *Locus Standi*

---

---

---

---

---

---

---

---

**THANK YOU**



---

---

---

---

---

---

---

---