NBRB NATIONAL BUILDING REVIEW BOARD

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POLICY, LEGAL AND REGULATORY FRAMEWORK FOR RAINWATER HARVESTING AND WASTEWATER MANAGEMENT IN THE BUILT ENVIRONMENT

Workshop on Managing the Circularity of water in Institutions
February 24, 2026- Kabira Country Club

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1) WHAT IS THE MANDATE OF NBRB?

The National Building Review Board (NBRB) is established under the **Building Control Act, Cap 136** to ensure:

a) Planned, safe, and environmentally compliant building developments
b) Supervision of Building Committees and Building Control Officers
c) Protection of public health and environmental sustainability
d) Enforcement of the National Building Code

WATER INFRASTRUCTURE IN BUILDINGS FALLS WITHIN THIS MANDATE.

2) WHAT LEGAL AND REGULATORY FRAMEWORK FOR BUILDING?

The National Building Code (2019) operationalizes the Act through:

a) Building Standards (SI.51)
b) Accessibility Standards (SI.52)
c) Electrical Installations (SI.58)
d) Structural Design (SI.59)
e) Mechanical Installations (SI.60)

RAINWATER HARVESTING, STORMWATER, AND WASTEWATER SYSTEMS ARE REGULATED COMPONENTS.

As Uganda advances climate resilience and decentralized wastewater systems, the built environment becomes a critical regulatory entry point for circular water infrastructure.

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4) WHAT DOES WATER CIRCULARITY MEAN IN THE BUILT ENVIRONMENT?

- Water circularity is a system where water is CAPTURED; STORED; TREATED; REUSED and RECHARGED.
- Water circularity water is not discharged as waste.
- Institutional facilities are strategic entry points for circular water systems.

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Why Institutional Facilities?

- Institutional facilities — Schools, Universities, Hospitals, Industrial Parks, and Government Buildings — are high-demand water nodes.
- The design of these facilities influence:
  a) Municipal water demand;
  b) Sewer system pressure;
  c) Flood exposure;
  d) Groundwater recharge;
  e) Operational expenditure.

THE POLICY QUESTION BECOMES: DOES THE CURRENT REGULATORY FRAMEWORK SUFFICIENTLY ENABLE CIRCULAR WATER AND WASTEWATER SYSTEMS IN INSTITUTIONS?

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Rainwater Harvesting

- Rainwater harvesting refers to the COLLECTION, STORAGE, and REUSE of rainwater from rooftops or other surfaces for non-potable use, potable treatment, or groundwater recharge.

- **Existing Framework-** Building Standards (SI.51- Paragraphs 185 – 197):
  a) Buildings of 200m² and above are required to provide rainwater harvesting systems.
  b) Provision may include storage or recharge.
  c) The obligation exists in law.

- **Gaps**
  a) No rainfall-based tank sizing formula is prescribed;
  b) No groundwater recharge performance benchmarks exist;
  c) Institutional-specific guidance is absent;
  d) Enforcement tools are limited.
  e) Thus, while mandated, rainwater harvesting lacks operational depth.

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Stormwater

- Stormwater management involves control, infiltration, detention, and safe discharge of runoff.
  - Green stormwater infrastructure includes permeable pavements, bioswales, and infiltration systems Paragraph 198,
  - In circular systems, stormwater is treated as a recharge opportunity.
- **Existing Framework**
  - The Building Standards recognize drainage and green stormwater infrastructure.
- **Gaps**
  - No infiltration design standards;
  - No recharge performance targets;
  - No harmonization with catchment management plans;
  - No monitoring framework.

STORMWATER IS RECOGNIZED IN PRINCIPLE, BUT NOT REGULATED AS A CIRCULAR ASSET

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Wastewater Systems for Institutions

- Wastewater management involves TREATMENT and DISPOSAL or REUSE of BLACKWATER and GREYWATER. Circular wastewater systems aim to treat effluent for reuse or safe discharge.

- **Existing Framework:** Building Standards (SI.51- Paragraphs 202 – 209,) recognizes:
  - Septic tanks and Cesspools;
  - Constructed wetlands;
  - Biogas digesters;
  - Public sewer systems.

- **Gaps**
  - Limited institutional sizing guidance;
  - No embedded effluent quality benchmarks;
  - Weak inspection and compliance systems;
  - No standardized reuse framework.

DECENTRALIZED WASTEWATER IS RECOGNIZED BUT INSUFFICIENTLY STANDARDIZED FOR INSTITUTIONAL SCALE.

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Greywater Reuse

- Greywater refers to wastewater from SHOWERS, BASINS, DORMITORIES, and LAUNDRIES, typically 40–60% of institutional water use.

- **Existing Framework**
  - Greywater reuse is briefly introduced under the SI.50 - Paragraph 184.

- **Gaps**
  - No reuse quality benchmarks;
  - No treatment design standards;
  - No clear approval pathway;
  - No public health compliance structure.

GREYWATER REUSE REMAINS CONCEPTUALLY ACKNOWLEDGED BUT PRACTICALLY UNDERDEVELOPED.

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5) What Are the Cross-Cutting Regulatory Gaps?

- Across rainwater harvesting, stormwater, wastewater, and greywater systems:

a) No detailed national design manuals;
b) Weak integration with environmental discharge standards;
c) No circular performance indicators in approvals;
d) Limited enforcement tools;
e) Capacity gaps among Building Committees.

CIRCULARITY IS PARTIALLY RECOGNIZED, AND IS YET TO BE EMBEDDED IN REGULATORY ARCHITECTURE.

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6) Why is embedding circular water infrastructure into building regulation important?

1) Lowers cost of doing business;
2) Capital Preservation;
3) Sustainable Urbanization;
4) Climate Resilience; and
5) Supports National Growth Objectives.

Economic Growth.

NDP IV

10-Fold Growth Strategy

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7) What Policy and Implementation Reforms are Required to Operationalize Circular Water Infrastructure in Institutions?

To align circular water regulation with Uganda's Growth Strategy [10-Fold Growth Strategy], reform must occur at both POLICY and IMPLEMENTATION levels. Specifically: -

1) **Strengthen the Regulatory Framework**

2) **Develop Technical and Enforcement Tools**

3) **Enhance Cross-Sector Coordination**

7.1) Strengthen the Regulatory Framework

a) Introduce performance-based rainwater harvesting standards

b) Establish mandatory groundwater recharge benchmarks for large institutional developments

c) Integrate effluent discharge standards into building approval processes

d) Develop institutional greywater reuse frameworks

e) Standardize decentralized wastewater treatment sizing criteria

7.2) Develop Technical and Enforcement Tools

a) Publish national design manuals for rainwater harvesting and wastewater systems

b) Develop inspection checklists for Building Committees

c) Introduce water circularity performance indicators for plan approvals

d) Strengthen capacity of Building Control Officers

7.3) Enhance Cross-Sector Coordination

a) Harmonize Building Control regulations with water resource and environmental laws

b) Align Local Government enforcement with national standards

c) Integrate circular water benchmarks into institutional planning frameworks

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THANK YOU

I WISH YOU GOOD LUCK