Water Stewardship in Semi-Arid Catchments: Lessons from Kenyan Industry

For Kenyan industries operating in semi-arid and arid landscapes—such as large-scale Agribusiness, Manufacturing, and Real Estate—water scarcity is the most immediate and material physical risk. Moving beyond simple water efficiency to genuine **water stewardship** is critical for maintaining a "license to operate," reducing **operational risk and downtime**, and securing investment.
Water stewardship requires recognizing that water is a shared resource best managed at the **catchment-level**. This article outlines the essential components of managing **basin risk** and highlights the power of **collective action**.

1. Understanding and Mapping Basin Risk

Water risk in a semi-arid region is fundamentally a shared, external risk known as **basin risk**. A company's water usage might be sustainable in isolation, but unsustainable in the context of the entire catchment.

A. Site-Level Screening and Dependency Mapping

The first step in **Water Stewardship** is a **site-level screening** that maps both **dependencies and impacts** related to water:

- **Dependencies:** How reliant is the operation on consistent, high-quality water (e.g., for cooling, irrigation, cleaning)? What are the alternative sources (e.g., rainwater harvesting, wastewater recycling)?
- **Impacts:** What are the company's impacts on water quantity (abstraction) and quality (effluent discharge) in the local area? Does the discharge affect downstream users, local ecosystems, or community health?

B. The Need for Context: Beyond the Fence-line

The assessment must extend beyond the company's boundary to include a **catchment-level risk** analysis. This involves using **geospatial data** (where available) to understand:

- The overall water balance of the basin.
- The competing demands from other users (e.g., communities, smallholder farmers, other industries).
- The frequency of climate-related hazards like drought and flash flooding.

Action Point: Define **Water KPIs** that track both site-level efficiency (e.g., water intensity) and compliance with basin-level regulations and permits.

2. Operationalizing Shared Infrastructure and Efficiency

In water-stressed regions, resource constraints drive innovation toward shared solutions and closed-loop systems.

A. Efficiency Gains with Measurable Savings

The commercial case for water stewardship begins with efficiency and circularity:

- **Water Intensity Reduction:** Companies must track and aim to reduce **water intensity** (liters per unit of product or revenue) to achieve **measurable savings**.
- **Wastewater Recycling and Reuse:** Implementing advanced systems to treat and reuse process water for non-critical activities (e.g., landscaping, vehicle washing) reduces abstraction pressure on the shared resource.
- **Leakage and Loss Reduction:** Simple maintenance and technology upgrades can significantly reduce water loss, which is often high in aging industrial infrastructure.

B. Managing Discharge and Quality

Compliance with **EMCA (Environmental Management and Coordination Act)** and EIA Regulations (NEMA) is the minimum requirement. Beyond compliance, water stewardship requires ensuring effluent quality does not increase **basin risk** for downstream users. This is a critical component of **Impact Materiality**.

3. Collective Action: Lessons from Kenyan Industry

The most significant lesson from successful water stewardship in Kenya is that no single entity can solve the basin-level risk alone. The solution requires **collective action options** with other users.

Collective Action Type	Description and Kenyan Context Example	Benefits
Water Resource User Associations (WRUAs)	Active engagement in and financial support for the local WRUA to fund activities like riparian planting, pollution monitoring, and borehole mapping.	Enhances **license to operate** and gives the company a voice in water allocation decisions.
Shared Infrastructure Investment	Jointly investing with neighboring industries or the public sector in climate-resilient water infrastructure (e.g., shared water treatment plants, or upgrading municipal supply).	Reduces **basin risk** for all partners and provides a defensible case to investors regarding long-term resource security.
Upstream Catchment Protection	Funding conservation projects (e.g., reforestation, terracing) in the upper parts of the catchment to improve water retention, reduce siltation, and secure long-term raw water quality.	Generates **verified impact** for blended finance and strengthens **stakeholder relationships**.

By embracing this model, Kenyan industries transform water scarcity from a crippling business risk into an opportunity for **nature-positive pathways** and shared value creation.