

Industrial water use in Bangladesh: A Policy Review



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Industrial Water Use

- Industrial water use comprises of water usage for
 - fabricating,
 - processing,
 - washing,
 - diluting,
 - cooling,
 - or transporting a product;
 - incorporating water into a product;
 - or for sanitation needs within the manufacturing facility.

Ref. www.usgs.gov

Relevant Policy Aspects	Sources of Directives		
Zoning regulations for new industries	National Water Policy (1999) Section-4.8	Bangladesh Water Act, 2013 Sec. 23	
Monitoring effluent disposal		Natl. Policy for Safe Water Supply & Sanitation, 1998. Sec. 8.3	
Standards of effluent disposal into common water courses		--	
Polluters Pay Principle		--	
Water Pollution Control	BWA, 2013 Sec.28	Bangladesh Env. Conservation Act Sec. 7	NWP 4.6
Safe abstraction of Ground Water	BWA, 2013 Sec. 19	Agri & Sani. Improvement Act, 1920. Sec-8.1	NWP 4.3

Policy Principles / Directives

EA001: Natl. Pollution Control Plan (Natl. 3R Strategy)

EA 002: Natl. clean-up existing industrial pollution

EA 003: Natl. Water Quality Monitoring

(National Water Management Plan, 2001)

SDG Action Plan for Implementation by Ministries / Divisions:

- SDG 6.3.1: % of wastewater safely treated
- SDG 6.3.2: % of water bodies with good ambient water quality
- SDG 6.6: **Industrial Water Use Policy is a prerequisite for implementing SDG 6.6 by 2020.**
- SDG 6.4.1: Water use efficiency = $A_{we} \times P_A + M_{we} \times P_M + S_{we} \times P_S$
- SDG 12.4, 12.5, 12.6, 12.7

Monetary incentives & penalties : Sec. 4.14 of NWP (1999); Sec. 14 of National Industry Policy (2016)

Bangladesh Delta Plan, 2100

- Living with Nature
- No Regret Measure

Stand alone



Integrated



Interdependent

Adaptive Delta Mgt

Desirable Future

Exogenous Variables

All 3 Higher Level Goals

Delta Specific Goal 2: Water Security, WUE

National Level Strategy

Fresh Water Strategy 1.6, 2.1, 2.2, 2.3

Delta Specific Goal 4:

Ecosystem preservation

Hotspot Level Strategy : 2.6. Urban area:

Monitor and control water pollution from industrial effluents

Maintaining Industry's competitive edge

Vision: Water Secured Industrial Development

Water availability : Spatial & Temporal Variation

Variety of Industries & Supply Chains

Industry Involvement & Compliance

Monitoring & Enforcement Mechanisms

Incentives, Penalties, Market Mechanism

Water: No Substitute, No Replacement

Water Efficient Growth

Water Pollution Control

Competing uses – Complicated- Complex

Maintaining Water Security

Emerging Policy Discourses

Circular Economy

- Circular Economy Industry Platform (EU)

Industrial Ecology

- **Industrial Symbiosis**
- Product Stewardship
- Life cycle planning

Zero Waste Approach

- www.zerowin.eu
- BRICS countries call for 'zero waste' approach in water and sanitation management

Systems Thinking Approach for SDG-6

- Links
- Feedback loops
- Leverage Points
- **WEF Nexus**

Cross Cutting Issues

Supply Side:

- Policy Tools: Acts, Ordinances, Rules, Strategies, Plans, Programs, Projects : National, Regional, Intl.
- Valuing Water: Shadow Pricing

- Water security & Climate Change related vulnerabilities
- Citizen's participation: Principle of IWRM: Bangladesh Water Rules, 2018

Demand Side:

- Regional and Global Dynamics of Industrial process
- Harnessing 4th Industrial Revolution for Water

Approaching Industrial Water Use Policy: From Systems Thinking Perspective

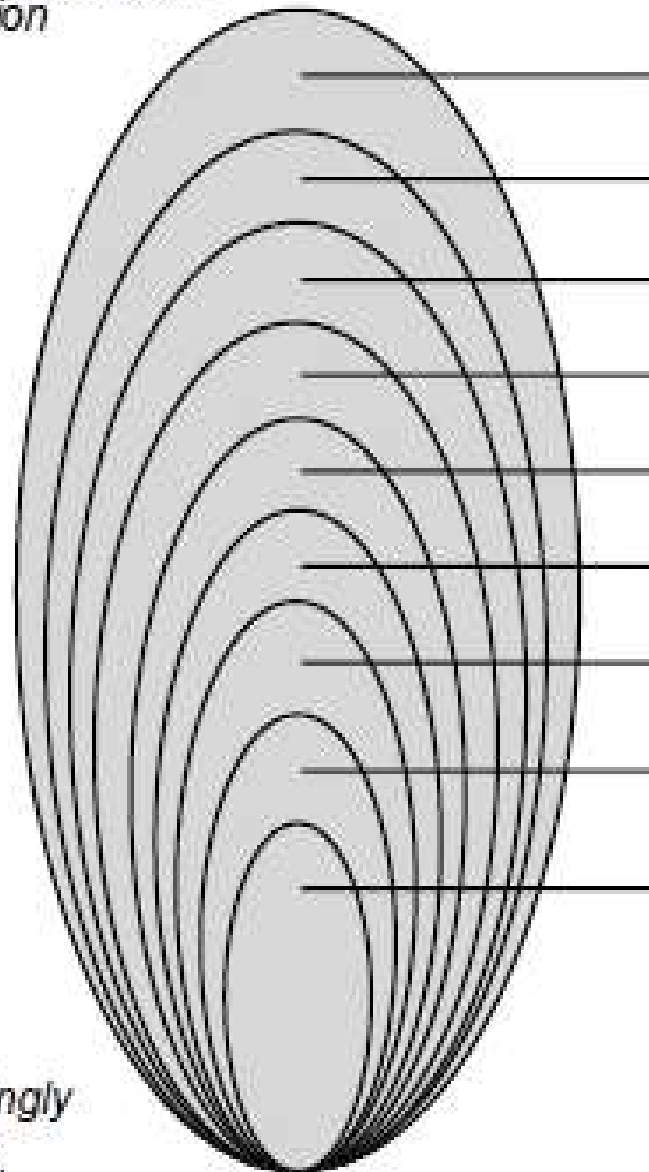
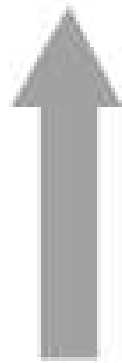


The scarcest resource is not oil, metals, clean air, capital, labour, or technology. It is our willingness to listen to each other and learn from each other and to seek the truth rather than seek to be right

— *Donella Meadows* —

AZ QUOTES

Increasingly Effective Intervention



Change the Mindset

Change the Overall Goals

Allow Diversity for Self-organization

Change the Rules

Improve Information Flows

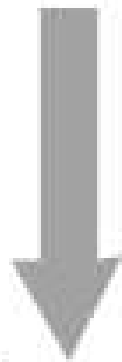
Allow Things to Grow Faster (positive feedback)

Allow Things to Adjust to Goals Faster (negative feedback)

Change the Way Stocks and Flows are Connected

Change Whatever Numbers You Can Measure

Decreasingly Effective Intervention



THANK YOU