AquaGuard Statutory Policy & Compliance Manual

Reference Document for Smart Water Allocation & Legal Enforcement Bot

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Section 1 — Statutory Water Priority Law

Drinking water for human survival shall have first priority, followed by agriculture for food security, and then industrial and economic uses.

This hierarchy must be enforced during normal, scarcity, and drought conditions.

Priority	Sector	Purpose
1	Domestic	Human survival
2	Agricultural	Food security
3	Industrial	Economic activity

Section 2 — Mandatory Request Inputs (Region & Demand Intake)

Each water request must include:

- Region ID
- Population
- Sector (Domestic / Agricultural / Industrial)
- Requested Volume (Litres)
- Allocation Cycle

Invalid Request Blocking

Reject immediately if:

- Any field is missing
- Population ≤ 0
- Requested volume ≤ 0
- Duplicate request in same cycle

Section 3 — Domestic Water Allocation Norms (CPHEEO LPCD Rule)

Area	LPCD (Litres/Person/Day)
Rural	55
Urban	135

Formula

Domestic Allocation = Population × LPCD × Days in Cycle

If request exceeds → **Reduced**

Section 4 — Domestic Reference Calculation Table

Urban

Population	Daily Need	30-Day Need
1,000	135,000	4,050,000
5,000	675,000	20,250,000
10,000	1,350,000	40,500,000
25,000	3,375,000	101,250,000

Rural

Population	Daily Need	30-Day Need
1,000	55,000	1,650,000
5,000	275,000	8,250,000
10,000	550,000	16,500,000

Section 5 — Agricultural Crop Water Benchmarks

Crop	Litres/Hectare/Day	30-Day Need
Rice	50,000	1,500,000
Sugarcane	45,000	1,350,000
Wheat	30,000	900,000
Maize	25,000	750,000
Pulses	15,000	450,000
Millets	10,000	300,000

Formula

Land Area × Crop Water Need × Days

High-water crops must be reduced during scarcity.

Section 6 — Industrial Water Benchmarks

Industry	Daily Limit	30-Day Limit
Textile	120,000	3,600,000
Paper & Pulp	250,000	7,500,000
Steel	300,000	9,000,000
Chemical	200,000	6,000,000

Industry	Daily Limit	30-Day Limit
Food Processing	80,000	2,400,000
Cement	100,000	3,000,000

If request exceeds → **Reduced**
During scarcity → **Deferred/Rejected**

Section 7 — Reservoir Safety Rule (Rule Curve)

Level	Meaning	Allocation Rule
Above Safe Level	Normal	All sectors allowed
Safe Operating Level	Warning	Restrict excess usage
Below Drought Trigger	Critical	Domestic + Essential Agriculture only
Below Dead Storage	Emergency	Only Drinking water allowed

Section 8 — Reservoir Dataset

Reservoir ID	Capacity	Safe Level	Drought Trigger	Dead Storage
R1	100,000,000	70,000,000	40,000,000	20,000,000
R2	80,000,000	55,000,000	30,000,000	15,000,000
R3	60,000,000	40,000,000	22,000,000	10,000,000

Section 9 — Drought Mode Rules

Activate when reservoir < drought trigger.

1. Industrial allocation must stop.
2. High-water crops must be reduced.
3. Domestic limited to LPCD minimum.
4. No non-essential allocation.

Section 10 — Hard-Stop Conditions

Reject automatically if:

- Reservoir < Dead Storage
- Industrial request during drought
- Duplicate request in same cycle
- Violates priority hierarchy
- Exceeds statutory benchmark

Section 11 — Allocation Decision States

Decision	Meaning
Approved	Fully granted
Reduced	Cut to legal limit
Deferred	Postponed
Rejected	Violates rule

Section 12 — Decision Logic Table

Condition	Sector	Decision
Reservoir < Dead Storage	Any	Rejected
Reservoir < Drought Trigger	Industry	Rejected
Reservoir < Drought Trigger	High-water Crop	Reduced
Reservoir < Drought Trigger	Domestic	Approved (LPCD)
Request > Benchmark	Any	Reduced
Duplicate	Any	Rejected

Section 13 — Cycle-Based Memory Rule

- One allocation per region per cycle
- Check previous logs
- Reject duplicates

Section 14 — Explainable Decision Requirement

Each decision must reference:

- Priority law
- Sector benchmark
- Reservoir rule
- Drought rule (if active)

Example Outputs

- "Approved as per domestic LPCD rule within safe reservoir level."
- "Reduced to crop benchmark due to scarcity."
- "Rejected due to domestic priority and drought condition."
- "Rejected due to duplicate request in same cycle."

Section 15 — Audit & Anti-Fraud Log Format

Region	Cycle	Sector	Requested	Allocated	Decision	Timestamp
RG101	C1	Domestic	50,00,000	40,50,000	Reduced	—
RG102	C1	Industry	80,00,000	0	Rejected	—

Logs must be immutable.

Section 16 — Absolute Compliance Principles

The system must NEVER:

- Forecast or predict
- Make discretionary decisions
- Ignore priority
- Guess missing data
- Approve during hard-stop
- Give unexplained decisions

All actions must be **dataset-backed and rule-based**.