Water Abundance Torus (WAT)

Goal: Permanent, non-enclosable water security run as a commons—not a utility to be captured.

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0) Covenant (the containment field)

No crowns. No chains. Water is a commons, not a commodity.

Copyleft for life: Every design, bill of materials, control script and playbook licensed CC BY-NC-SA / GPL (no enclosure).

Consent governance: Users can enter/leave; decisions by Covenant of Equals (no shareholder override).

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1) Input — What the community brings (not money)

Local knowledge & maps: Traditional sources, flood paths, dry wells, roof areas.

Labor & craft: Install crews, caretakers, sensor stewards, youth "water rangers."

Sites & roofs: Schools, temples, clinics, markets become catchment assets.

Time & trust: Timebank hours (ledgered) convert to "water credits" & maintenance priority.

Data & observation: Phone photos, well-depth logs, leak reports into an open ledger.

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2) Circulation — Open tech + protocols (the OSIIN core)

Modular tech stack (choose per climate; all open-source):

Catch & store:

- Roof-rain + first-flush
- Ferro-cement tanks
- Underground cisterns
- Fog nets in coastal hills
- Sand dams in ephemeral streams

Lift & move:

- Solar-PV pumps
- Gravity loops
- Pedal pumps
- Standard 24/48V DC bus so parts are interchangeable

Make & clean:

- Biosand/ceramic for pathogens (v1)
- UV-C / SODIS for low-power disinfection
- Membrane distillation with waste-heat/solar for brackish water (v2)
- Constructed wetlands & bio-reactors for greywater → irrigation
- Point-of-use filters as redundancy

Recharge:

- Percolation pits
- Infiltration trenches
- Check-dams to push water back into the aquifer

Sensing & telemetry:

- Cheap open hardware (ESP32/LoRa) on tanks, flow meters, well heads
- Publishes to OSIIN data hub

Control & playbooks:

- Open PLC/firmware + maintenance SOPs with photos/emoji ("schoolhouse manuals")

Social protocols (the Resonance layer):

Commons Guilds: Pump Guild, Tank Guild, Wetland Guild—rotating, trained, paid in timebank credits + small stipends when available.

Mutual credit: Time → water credits; credits also redeemable for repair priority or seedlings.

Open ledger: Transparent dashboard shows inflows, outflows, leaks, downtime—no black boxes.

Anti-capture deed: Community water deed filed locally: infrastructure cannot be sold or pledged as collateral; if dissolved, assets revert to public trust.

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3) Output — What returns to people (and why it sticks)

Liters/person/day at WHO sufficiency (≥50 L pppd) with <$0.01/L operating cost.

Time back: Hours/day saved (esp. women/children) from hauling water → converted to learning, care, micro-enterprise.

Health uplift: Drop in diarrheal disease, school attendance up, clinic visits for waterborne disease down.

Green halo: Neighborhood canopy increase, kitchen-garden yields, heat-island reduction.

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4) Feedback — The regenerative loop (why it self-sustains)

Live dashboards (schoolhouse simple): Tank % full, well depth, leaks flagged, next service due. Kids read it in morning assembly.

Incentives: Leak bounties, "zero-downtime month" celebrations, timebank bonuses for preventive care.

Adaptive design: Sensor data → tweak catchment, pump duty cycles, filter replacement; OSIIN updates propagate like app releases.

Replication packs: Every successful node auto-generates a "clone kit" (BOM, cut lists, SOPs, costs, pitfalls) so neighbors can fork it.

📐 Pilot to Field: 6-step rollout

1. Hearth audit (2 weeks): Roof survey, source mapping, community workshop; pick 1 school + 1 clinic as anchors.

2. Seed build (6–8 weeks): Rain + storage + biosand + PV pump; install LoRa sensors; train the Pump Guild.

3. Governance kick-off: Adopt the Commons Creed; open the timebank; set leak bounty & maintenance rota.

4. Greywater & gardens: Wetlands at school/clinic, kitchen gardens; publish tutorial videos by local teens.

5. Health & time baseline: Simple metrics before/after; public wall poster of gains (no NGO PDF buried somewhere).

6. Fork & scale: Help a second neighborhood clone the kit; swap crews (cross-training); iterate licenses/handbooks.

🔎 Metrics that matter (resonance indicators)

Access:

- L/person/day
- % households > 50 L pppd
- Days of storage at 80% reliability

Reliability:

- Downtime hours/month per node
- Mean time to repair

Equity:

- Queue time variance
- Grievance resolution time
- % households contributing to guilds

Health & life:

- Diarrheal incidence
- School days missed
- Hours/day saved from hauling water

Ecology:

- Well depth trend
- Soil moisture
- Canopy index
- Wetland bio-scores

Governance:

- Number of trained guild members
- Rotations completed
- Audit trail completeness

🧬 Why this beats scarcity

Anti-enclosure by design: Copyleft + deed + transparency = privatization can't take root.

Local first: Parts you can fix with a wrench and a phone; standard DC bus, interchangeable modules.

Human-centered ops: Timebank + guilds turns "maintenance" into prestige + livelihood, not drudgery.

Replication baked in: Every node teaches the next; OSIIN propagates improvements like open-source software. next; OSIIN propagates improvements like open-source software.