



QATUAN SUSTAINABLE DEVELOPMENT NETWORKS

QAT
SDN

LIVING intelligence



QAIB



QAIB

Regenerative Systems Architecture

Systems Logic Behind the Field

Presented by Jamie Conway
EcoRestoration Alliance 2026



Bridging Cosmos, Intelligence, and Regeneration

WHY WE BUILT IT — THE STRUCTURAL PROBLEM

Regeneration fails when governance is poorly defined.

1. **Fragmented Responsibility**
Flows cross actors, but no actor owns the whole system.
2. **Technical Fixes Without Integration**
Devices are installed; metabolism remains broken.
3. **Measurement as Reporting, Not Design**
MRV appears after failure, not before intervention.
4. **Scaling Without Feedback**
Projects expand before stabilizing their cycles.

This work began as a systems analysis into why regenerative efforts collapse — and what governance architecture is required for them to endure.



A WORKING GOVERNANCE PATTERN

Visual Ecosystem: Partners in Motion

At the heart of this campaign is a visual metaphor — a landscape where Vila Qatun emerges not just as a prototype site, but as a living ground for relationships to grow, not be imposed. Surrounding this centre is a spiral of partner logos, descending like seeds or celestial bodies toward generation — an elegant reflection of how this movement flows.

From Institution to Interaction

Logos are not static symbols — they're frequencies within the design. Each partner carries a kind of **Research - Resources - Protocols - Vision**. Together, they flow toward the land — toward VQ — where real people, real learning, and real systems emerge.

Builder - Community - Researcher Model

This model honors the tradition in the heart of our regenerative methods: **Builders** bring structure, tools, and material wisdom; **Communities** bring culture, continuity, and care; **Researchers** bring phenomena, feedback, and foresight where they meet, something more than a project begins — VQ becomes a living method.

Client - Capacitor Relationship

We don't operate with "clients," we work with collaborators in partnership — individuals and institutions becoming capacitors through the act of participating, listening, and building regenerative systems together. Where logos meet land, where strategy meets soil, where vision becomes reality —

That is culture in a postmodernist's best definition.

Horizontes Abertos

A Living Framework for Regenerative Collaboration

Regenera | Horizontes Abertos is a citizen science campaign emerging from Brazil — linking environmental observation, regenerative energy systems, and open learning architecture across Latin America. Guided by the ethos of the GLOBE Program, UNDOSSA's Open Utrama, and Brazil's leading research and water science networks, this initiative is stewarded by the Quantum Architecture Institute of Brazil (QAIB).

- Satellite sensing — INPE, GLOBE, and Open University
- Local water intelligence — rooted in traditional knowledge
- Energy design — informed by real-world data from our pilot site
- Aeva — an AI assistant supporting bilingual, citizen-led learning.

Our first prototype, Vila Qatun (Cavalcante-GO), is now under construction — blending permeability, infrastructure, and data literacy inside a public-facing regenerative hub, Cha é.

Regenera is not a proposal. It is a pattern in motion — Built by people. Powered by science. Guided by place.

From Data to Design

Building with the Land, Not on It — Citizen science meets regenerative infrastructure — using GLOBE data protocols to guide every design decision in the Vila Qatun (VQ) Energy Pilot.

- Observe & Measure** → GLOBE Protocols Land Cover & Phenology → Understanding terrain, vegetation, and seasonal patterns. Soil Characterization → Local components, composition, and water retention. Hydrology & Water Quality → Identifying flow, availability, and health of water systems. Atmosphere & Climate → Solar exposure, wind patterns, and climate resilience.
- Translate to Design Intelligence** → Ecological Parameters Site-specific system using Low-impact Infrastructure placement. Bio-integrated architecture & materials. Predictive maintenance models using local data cycles.
- Deploy Regenerative Systems** → Energy Infrastructure + Education. Renewable microgrid. Smart water systems. Local stewardship training. Data-informed policy guidance.

Rooted in science, led by communities.

Vila Qatun — Our Living Prototype

Vila Qatun serves as Brazil's first regenerative energy prototype, harmoniously situated in the vibrant Cerrado biome of Cavalcante, Goiás. It stands as a profound demonstration of how tradition, science, and innovation can create new models of life and infrastructure — with an aesthetic rooted in warm earth tones, celestial symbolism, and a deep Brazilian sense of place.

Guided by T.S. Eliot's insight — "A tradition without intelligence is not worth having" — Vila Qatun honors the past while actively designing the future.

Its guiding philosophy embraces intelligent evolution over nostalgic preservation, creating a **regenerative design language** informed by data, beauty, and culture.

At the heart of Vila Qatun's formation is its role as the **launch site for Regenera Brasil** — where citizen science becomes disruptive.

Its guiding philosophy embraces intelligent evolution over nostalgic preservation, creating a **regenerative design language** informed by data, beauty, and culture.

- GLOBE datasets** on land cover, soil, water, and atmosphere guide real-time design.
- These metrics inform the placement and type of **renewable systems deployed**.
- A **visual system diagram** maps the journey from **data → design → deployment**.

As a **high-tech living lab**, Vila Qatun features:

- Solar microgrids, bio-integrated water systems, and local material reuse.
- A **builder-community-researcher** partnership model.
- Dynamic adaptation through ongoing feedback and **seasonal learning**.

<https://vila.qatun.com.br/2024/07/20/evolving-ways-to-move-the-planet/>

Quantum Design Attributes in Practice

Through Cha é and Vila Qatun

Vila Qatun is more than a prototype — it is the second phase of a regenerative strategy already embraced by the community of Cavalcante.

The project takes root in Cha é, a community-built cultural and educational hub that embodies QAIB's Quantum Sustainable Development Framework.

Cha é is where Regenera began in practice — as an open-air classroom, event space, and community centre designed to host everything from workshops to knowledge exchanges.

It is a space where local teach locals, and the concepts of regenerative living aren't just imagined — they're rehearsed, celebrated, and refined.

Together, Cha é and Vila Qatun create a feedback loop of learning, prototyping, and system integration, where community vision is translated into grounded, evolving reality.

Building by Principle — Quantum Design in Practice

- Holistic Integration** Merging traditional ecological knowledge with citizen science.
- Quantum Thinking** Embracing non-linear, emergent design guided by environmental data and community feedback.
- Eccentric Design** Balancing ecosystem regeneration with human wellbeing.
- Idea Repository in Action** Transforming data into visible, useful, and creatively applied insights through design sessions and workshops.
- Iterative Development** A living process of prototyping, testing, and adapting — season by season.
- Community Driven Innovation** Villagers and builders co-create infrastructure, practices, and tools for the future.
- Regenerative Infrastructure** Energy systems, water cycles, and social models that are place-based and resilience-informed.

Cha é is where the story begins. Vila Qatun is where it takes form. Regenera is the movement they empower together.

Aeva's Learning Loop

How protocols become practice. How data becomes dialogue.

Aeva operates through a cyclical design that mirrors nature itself — always observing, integrating, and adapting. Her architecture is grounded in open science, local relevance, and global cooperation.

The Learning Loop

- Listen** Learns from QAIB's ThinkMachines, citizen questions, and localized content. → "What does this site represent?" → "How does this GLOBE protocol work?"
- Translate** Integrates scientific protocols, SMART datasets, data, GLOBE materials → Converts PDFs, spreadsheets, and maps into open/visualized guidance → Supports visual and spatial interaction.
- Teach** Offers multilingual assistance in applying science to real-world tasks → How to collect data → How to document a site observation → How to build a regenerative energy prototype.
- Learn** Continuously trained through user interactions → Understands regional dialects, cultural cues, scientific feedback → Shares findings with QAIB to refine her responses.
- Guide** Facilitates adaptive knowledge — helping each user develop with every interaction → Gathers from exploring & experimenting → Supports schools, municipalities, and research teams alike.

Invitation to Collaborate

A National Citizen Science Campaign. A Living Prototype. A Shared Initiative.

Regenera Brasil is more than a campaign — it is a movement already in motion. From Cha é to Vila Qatun, we are building the tools, platforms, and living prototypes for regenerative development — rooted in data, driven by community, and informed by the cosmos.

We are actively inviting collaborators who wish to:

- Strengthen Citizen Science** Support national and regional GLOBE activation and environmental data collection.
- Prototype Place Based Energy Systems** Help us scale the Vila Qatun model using data-driven infrastructure.
- Empower Educators and Youth** Co-create capacity-building materials for schools and living labs.
- Develop Aeva as a Learning Interface** Refine her intelligence to serve as a bilingual guide for scientists, students, and communities.
- Connect Local to Global** Align efforts with the UN zero agenda, UNDOSSA's Open Utrama, and the World Water Community.

What We Bring:

- A live prototype in Cavalcante — where Cha é and Vila Qatun are already in motion.
- GLOBE protocols embedded from the ground up.
- Alignment with NASA GLOBE, RBCC, UNDOSSA, AEB, and INPE.
- An open-source knowledge system through ThinkMachines and Aeva.
- Modular, bilingual campaign architecture ready to adapt and deploy.
- An AI-led learning platform (Aeva) growing in dialogue with people and place.
- A trusted network across science, education, and sustainability — RBCC, GLOBE LAC, WWV, Oceanix™.
- Hands-on experience translating regenerative vision into working systems, on the ground and in the dirt.
- Let's co-develop. Let's share the Journey. Let's shape the transition — together.

Contact: Janice Gentry (NASA GSFC Scientist) Founder - QAIB | janice@gentry.com | @janicegentry | @janicegentry | @janicegentry

The Quantum Architecture Institute of Brazil | Cavalcante, Goiás, Brazil

Contact: WBV Lab | World Water Community | Oceanix | Earth Institute | RBCC | GLOBE LAC

“What began as a campaign now functions as a governance discipline — structured, measurable, and field-tested.”





FROM SHIT TO SPACESHIP — STRUCTURAL LOGIC IN PRACTICE



REGENERATION IN PRACTICE

From Laboratory to Landscape

Each site adapts the universal metabolism to its own climate and culture.

What began as experiments in Europe — compact vertical flow beds, living water channels — has now taken root in Brazil through Qatun's field laboratories.

All Savanno, the same principles of oxygenation, bio-char filtration, and nutrient recycling are re-expressed through local materials and craft.

The goal is not to replicate the technology, but to continue the conversation — between water and place, between people and process.



19/02/2026

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FROM INDUSTRY TO ECOLOGY

Re-linking the Broken Metabolism

The industrial metabolism and the ecological metabolism were never opposites — only separated by design.

Industry burns, isolates, and exhausts.

Ecology circulates, integrates, and renews.

All Qatun we use the same process logic: — feedback, conversion, reuse — but guided by the intelligence of gravity, cations, and community.

The result is a metabolic continuum: from synthetic to organic, from extractive to regenerative.

Source: Diagrammatic logic adapted from P2O system analysis and circular economy frameworks. Re-applied for Qatun / Qatun field architecture.



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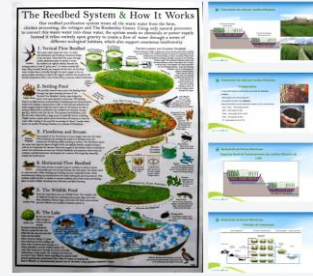
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WHERE THE SYSTEM BEGAN

- The design lineage traces back to the pioneering work at Qatun's Field — a collaborative project led by Chile Weidson (planning, system design) with Andy Jones (contributing to the construction of the reed-beds and designing/implementing the 100m² biochar® stream).
- In 2018, this training — delivered through Phytoestore Brazil and the Microbotics Ambiental program — introduced living plant systems as Nature-based Solutions (NBS) for treating effluent.
- These systems purify water through wetland plants and microbial ecosystems — no chemicals, no energy inputs.
- Savanno's solution integrates that lineage with Qatun's field-based regenerative framework, adapting the principles to local materials, climate, and community needs.
- *The Quantum Archaeoecology Institute of Brazil.



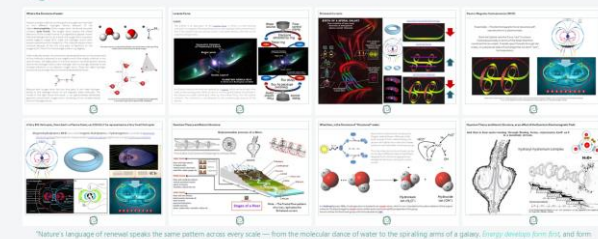
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OBSERVING FLOWING FORMS



"Nature's language of renewal speaks the same pattern across every scale — from the molecular dance of water to the spiraling arms of a galaxy. *Energy develops form first*, and form remembers energy. What we built at Savanno follows this same geometry — a living conversation between flow, structure, and regeneration."

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THE FIVE-POINT SYSTEM

Savanno's wastewater network works as a living circuit — five connected stages that guide every drop from kitchen to landscape.

Each phase relies only on gravity and living material, turning what we call "waste" back into nourishment.

- Kitchen Greywater Quality Standard
- Urine to Planted Soakaway
- Faeces to Evapotranspiration Chamber
- Biochar Filtration Cartridges
- Rainwater Re-entry Trench



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STAGE 1 – GREYWATER TREATMENT

- Kitchen water enters a vertical-flow biochar bed. Bar water enters a solids capture and removal trap.
- A dosage cistern evens out flow, leading the bed through perforated pipes.
- Water trickles through sand, gravel and root zones where bacteria, oxygen, and plant roots remove suspended solids and organics.
- Clarified water collects in a holding tank for reuse or onward flow to Stage 2.

Visual: Overview images of the triple-level bed (Dosage → Filter → Tank).

Side note: Adapted from Qatun's vertical-flow standard, removes >80% BOD naturally.



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STAGE 2 – NUTRIENT RECOVERY THROUGH PLANTS

- Low-concentration urine and weak water feed a planted soakaway integrated with the site's rainwater trench.
- Species such as banana, water, and leuca extract nitrogen and phosphorus while their roots regenerate the soil.
- The vegetation step naturally achieved in open ponds occurs subterranean here.
- All water moves laterally through the gravel-filled French-drain channel.
- As it diffuses through joint spaces and rhizosphere vegetation maintains aerobic conditions.
- The result is a compact, visible oxygenation process that protects the water table and keeps the landscape lush.
- Nutrients are transformed into that, foliage, and much — closing the nutrient loop.

Visual: Conventional "Phytoestore Brazil" wetland regeneration process showing effluent/canals and construction technique.

Caption: All Savanno, the regeneration goal has been understood — the clean staff solution.



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STAGE 4 – BIOCHAR FILTRATION

- After pre-treatment in the evapotranspiration chamber, effluent passes through biochar cartridges housed in injection boxes spaced along the outlet trench (0.12 m, 12 m, 12 m).
- Each cartridge contains activated biochar granules that host diverse microbial colonies. These microorganisms oxidize remaining organics and capture trace nutrients and heavy metals.
- Biochar's porous carbon matrix acts like a sponge and catalyst. It absorbs impurities while maintaining aerobic flow.
- Unlike sand filters, these cartridges can be regenerated or replaced without disturbing the trench — allowing the system's life to be flexible.
- The final effluent leaving this stage meets ABOP 4000 standards for reuse, protecting and safe for infiltration into the rainwater channel.

Caption: Carbon biomass inventory — the same element that once fed the non-food life.

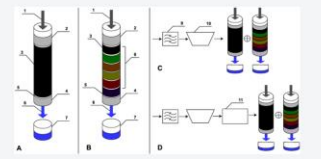


Fig. 8. Configuration and set-up of the filtration systems.

(1) Effluent, (2) pre-treated effluent, (3) drainage gravel base, (4) fine mesh, (5) effluent, (6) carbon, (7) filter material, (8) preliminary screening, (9) primary filter, (10) secondary filter, (11) biochar, (12) final effluent.

Source: Galvão et al., 2023 – Frontiers in Environmental Science (CC BY 4.0). <https://www.frontiersin.org/journal/10.3389/fenv.2023.1144220/full>

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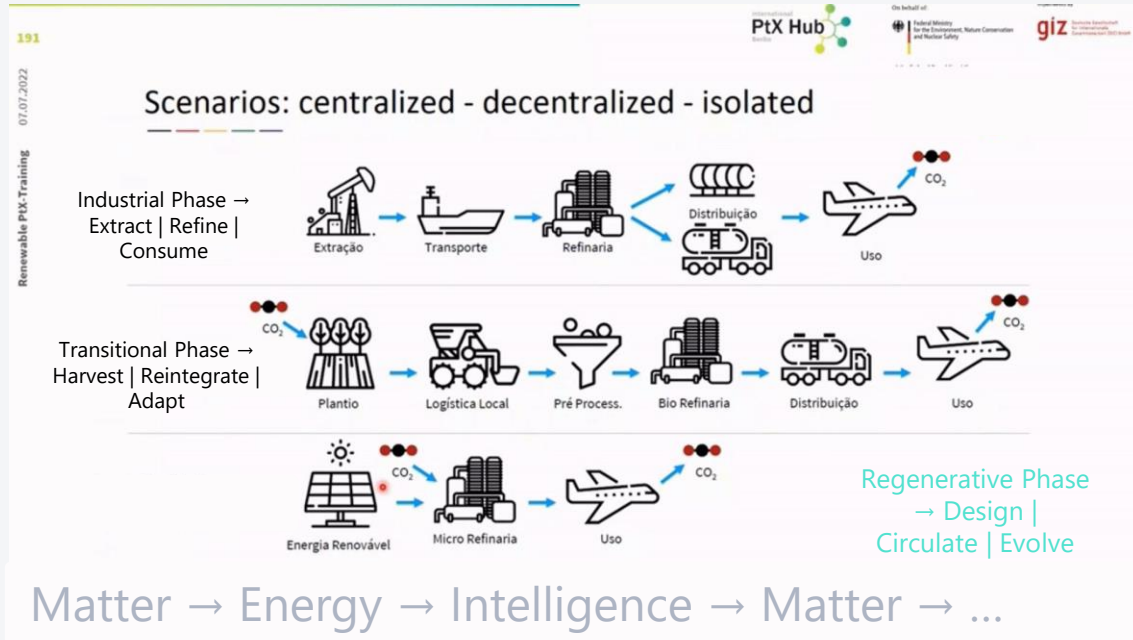
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"Nature's language of renewal speaks the same pattern across every scale — from the molecular dance of water to the spiraling arms of a galaxy. *Energy develops form first*, and form remembers energy. What we built at Savanno follows this same geometry — a living conversation between flow, structure, and regeneration."





FROM PATTERN TO MEASURABLE PRACTICE



Sources:

Diagrammatic logic adapted from PtX system analysis and circular-economy frameworks. Re-expressed for QAIB / Qatuan field architecture.

Qatuan Operational Translation Layer

1. Observe the Field ~ Map flows, constraints, actors, and leakage points.
2. Define the Boundary ~ Clarify scale, responsibility, and system limits.
3. Identify Metabolic Breaks ~ Where value, nutrients, energy, or trust are lost.
4. Re-link Flows ~ Convert waste streams into usable cycles.
5. Stage the Intervention ~ Implement in sequenced, testable phases.
6. Embed Feedback Loops ~ Monitoring before scaling.
7. Quantify Outputs ~ Nutrients recovered, emissions reduced, costs avoided.
8. Stabilize the System ~ Adjust based on measured performance.
9. Communicate Transparently ~ Make the process partner and community legible.
10. Replicate with Context ~ Transfer principles, not templates.

Operational scaffold used to translate industrial systems into regenerative field infrastructure.



MEASURABLE RESPONSES — THE CYCLE IN ACTION

Governance becomes visible when flows are measured.

Left: Field Observation Plate → behavioural discipline.

Right: Savanno Sheet → financial + operational accountability.

QATUAN · QAIB · GLOBE — Field Observation Plate

SYSTEM INFO
Notes: _____
Site ID: _____
Date: _____ Time: _____
Observer(s): _____

AIR & RAIN
Notes: _____
 Air Temp: _____ °C
 Rain (last 24h): _____ mm
 Sky: Clear Cloudy
 Rain Storm

WATER
Notes: _____
 pH: _____
 Transparency: _____ cm
 Mosquito Larvae Present?
 Yes No

SOIL
Notes: _____
 Moisture: Dry Moist Wet
 Smell: _____

SOUND + WILDLIFE
15–30 sec Sound Log Notes: _____
Wildlife Seen/Heard: _____

VISITORS + LITTER
Type(s): _____
 Visitors Today: _____
 Litter Count: _____ pieces

NOTES / INSIGHTS

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Savanno_Operational_Baseline_Log

File Edit View Insert Format Data Tools Extensions Help

QAIB / QATUAN - SAVANNO ORGANIC & SERVICE LOAD LOG

7-Day Operational Baseline Study

Date	Day Type	Covers Paid	Friends / Family	Staff Fed	Total Fed	Baseline Menu	Kitchen Waste (kg)	Wash Basket Solids (kg)	Grease Trap Cleaned	Notes	Waste per Person (kg)
09/02/2026					0				no		
10/02/2026					0				no		
11/02/2026					0				no		
12/02/2026					0				no		
13/02/2026	Event	50	4	14	133	Regul...	8.22		no		0.06
14/02/2026	Peak	103	4	14	254.9	Regul...	4		yes	CaixadeGorduras rebuilt correctly	0.02
15/02/2026	Peak	130	6	17	322	Regul...	12		no	Weight not taken. Fine = 12kg	0.04
16/02/2026	Peak	125	6	15	308.5	Regul...	13		no	Weight not taken. Fine = 12kg	0.04
17/02/2026	Peak	94	6	8	230.2	Regul...	12		no	Weight not taken. Fine = 12kg	0.05
18/02/2026					0						
19/02/2026					0						
20/02/2026					0						
21/02/2026					0						
22/02/2026					0						
23/02/2026					0						

Summary Metrics:

- Total Waste (kg) – Week: 24.22
- Total People Fed – Week: 709.9
- Avg Waste per Person – Week: 0.03 ON TARGET
- Target Waste per Person (kg): 0.2
- People per Cover (est.): 2.3
- Estimated Paid People: 650.9
- Retail Value per kg (R\$): 80
- Ingredient Cost %: 0.35
- Cost Lost (R\$): R\$678.16
- Food-cover rate: 0.5
- Food Waste (Retail Value): R\$1,937.60
- Ingredient Cost Lost: R\$678.16
- Food Revenue: R\$15,621.60
- Target Waste %: 8.00%
- Waste % (by weight): 12.40%





QAIB

PART II

Tools of Regeneration

How Qatuan and QAIB
Turn Theory into Practice

Full open-source documentation available via the Qatuan / QAIB Regenerative Resource Library (RRL).
<https://vila.qatuan.com.br/regenerative-resource-library/>



Bridging Cosmos, Intelligence, and Regeneration



COMPETENCE BASE — EAWAG SANITATION MOOC SERIES

World-standard technical training
for regenerative water systems

To design regenerative water systems, practitioners need a shared foundation.

Eawag's open-access sanitation courses (ETH Zürich) form the global benchmark for Nature-Based Solutions, integrating engineering, ecology, and public health into one competence layer.

We use it because:

- It provides globally validated technical training
- It aligns practitioners with real-world sanitation logic
- It forms the literacy base for Savanno, VQ, and QAIB field labs

COURSE:

<https://www.eawag.ch/en/department/sandec/digital-learning/moocs/>

BOOK (Free):

https://www.eawag.ch/fileadmin/Domain1/Abteilungen/sandec/publikationen/EWM/Book/fsm_book.pdf

The screenshot shows the EAWAG website interface. At the top, there is a navigation bar with the EAWAG logo and menu items: DE | EN | FR, Contact, Jobs & Career, Quick links research departments, Research, Teaching, Consulting, Infoportal, About us, and a search icon. Below the navigation bar, the page title is "Department Sanitation, Water and Solid Waste for Development". A secondary navigation bar includes a home icon, Main Focus, Projects, Organisation, Publications, Learning (highlighted), and Links. The main content area is titled "WASH MOOC series – Course information" and features four course cards with images and titles: "MOOC I: Introduction to Household Water Treatment and Safe Storage" by Dr. Sara Marks & Dr. Richard Johnston; "MOOC II: Planning & Design of Sanitation Systems and Technologies" by Dr. Christoph Lüthi; "MOOC III: Municipal Solid Waste Management in Developing Countries" by Dr. Christian Zurbrugg; and "MOOC IV: Introduction to Faecal Sludge Management" by Dr. Linda Strande. Below these cards is a list of MOOCs with dropdown arrows: "MOOC: Municipal Solid Waste Management in Developing Countries", "MOOC: Planning and Design of Sanitation Systems and Technologies", "MOOC: Introduction to Household Water Treatment and Safe Storage", and "MOOC: Introduction to Faecal Sludge Management". Further down, there is a section for "Recommended WASH education from our partners" with a dropdown arrow for "Learning offers from partners". At the bottom, there are logos for EAWAG, EPFL (École Polytechnique Fédérale de Lausanne), and the Swiss Agency for Development and Cooperation SDC.





ENVIRONMENTAL INTELLIGENCE —

NASA GLOBE PROTOCOLS

To regenerate a system, we must first learn to read it.

The NASA GLOBE Program provides the world’s most widely used environmental measurement protocols — a behavioural framework that trains observation, accuracy, and scientific memory.

Why we use it:

- Standardised air, water, soil, and phenology measurements
- Global scientific credibility and open data
- A behavioural discipline that communities can learn together
- The basis for our Qatuan Field Plate and Arduino monitoring station

Qatuan and QAIB complete the NASA framework by adding the Anthroposphere—the human behavioural sphere that turns measurement into culture.

GLOBE turns measurement into literacy, and literacy into regenerative practice.

Reference: NASA GLOBE “Practicing Your Protocols” Activities (Atmosphere, Biosphere, Hydrosphere, Pedosphere)





COMMUNITY LITERACY —

QATUAN FIELD OBSERVATION PLATE


Regeneration begins with literacy.


This simple, durable A5 plate is used weekly at Savanno and VQ, helping communities build the habit of observing their environment through the same categories used by NASA GLOBE.


Why it works:


- It transforms scientific protocols into a daily practice
- It builds shared language across youth, visitors, and field teams
- It strengthens memory, attention, and environmental awareness
- It supports long-term environmental monitoring in our field-lab system


Designed to be laminated, pocketable, bilingual, and usable by any school, kitchen, garden, or field-lab team.


 QATUAN · QAIB · GLOBE — Field Observation Plate


 **SYSTEM INFO**
Notes: _____


 **AIR & RAIN**
Notes: _____

 **WATER**
Notes: _____

 **SOIL**
Notes: _____

 **SOUND + WILDLIFE**
15–30 sec Sound Log Notes:

 **VISITORS + LITTER**
Type(s): _____

 **NOTES / INSIGHTS**

Site ID: _____
Date: _____ Time: _____
Observer(s): _____





Air Temp: _____ °C
 Rain (last 24h): _____ mm
 Sky: Clear Cloudy
 Rain Storm

pH: _____
 Transparency: _____ cm
 Mosquito Larvae Present?
 Yes No

Moisture: Dry Moist Wet
 Smell: _____

Wildlife Seen/Heard:

Visitors Today: _____
 Litter Count: _____ pieces

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FIELD MONITORING —

ARDUINO ENVIRONMENTAL STATION

To understand long-term regenerative cycles, we need instruments that can sense and remember the field over time.

Our Arduino-based station measures temperature, humidity, light, soil moisture and other variables — forming the first layer of our long-term environmental archive.

Why we use it:

- Affordable, open-source, and replicable in any community.
- Helps youth and field teams connect design to real data.
- Supports continuous monitoring of patterns and seasonal rhythms.
- Forms the technical foundation of our environmental time model — the Harmonic Sextant (informally, the Jamie Clock).

The station grows with the site:

starting with a basic kit and evolving into a full multi-sensor field node integrated with Aeva and the Qatuan observation system.



Sensors for the Savanno Field Lab:
These low-cost modules form the starting point for environmental memory at VQ — connecting field data to the wider institutional system.



INSTITUTIONAL INTEGRATION — THE FIELD AS A SYSTEM

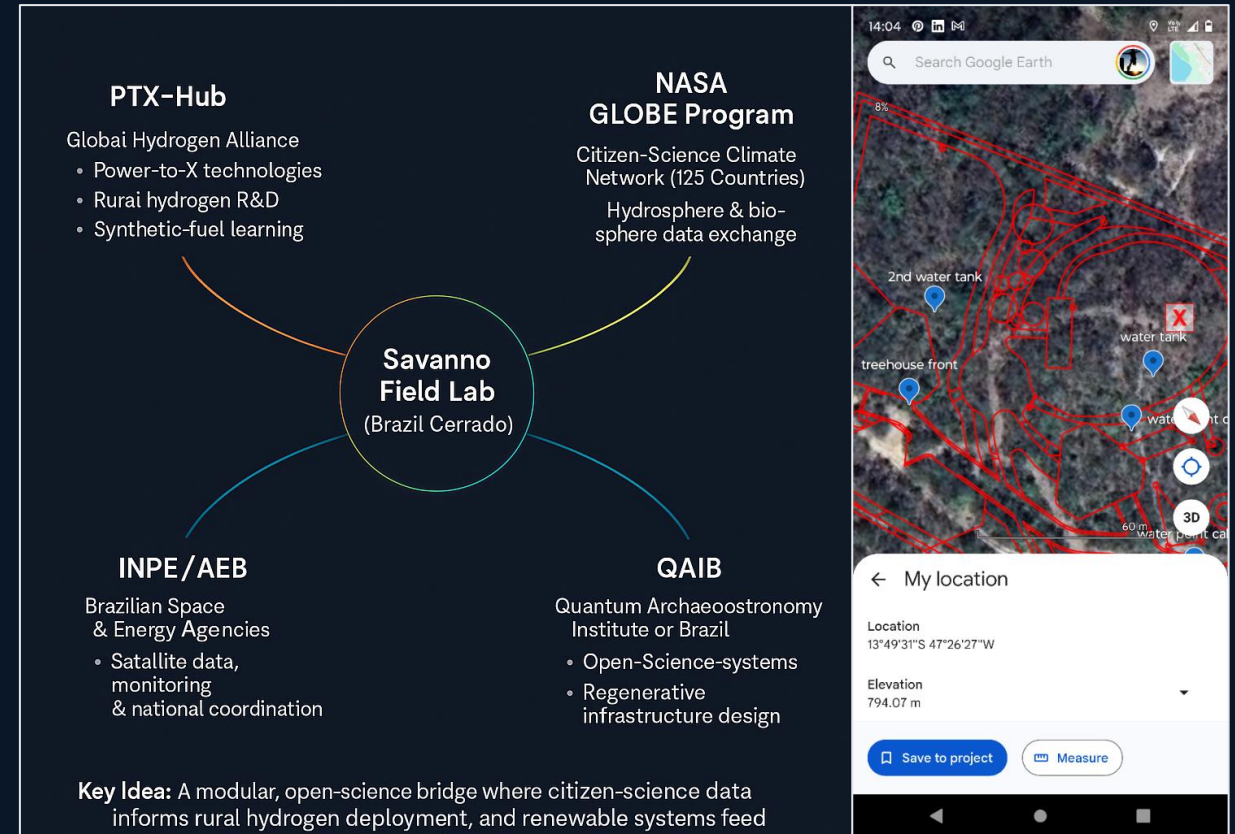
Aligning scientific, civic, technological, and community intelligence around the landscape.

Regeneration does not happen through one institution acting alone. It emerges when multiple layers of intelligence — scientific, civic, technological, and community — align around the same landscape.

QAIB provides the architecture that connects them:

- NASA GLOBE — environmental measurement & open science.
- INPE / AEB — satellite data, monitoring & national coordination.
- PtX Hub — rural hydrogen & renewable-energy systems.
- Qatuan — field literacy, community practice & system design.
- QAIB — integrative methodology, cognition & regenerative governance.

Together, they form the Savanno–VQ Field Network — where institutions learn from the land, and the land learns from the institutions.





FROM SHIT TO SPACESHIP —

A COMMUNITY SYSTEM IN ONE LESSON

A composting toilet is where most people begin.

It's tangible, familiar, and solves a very real problem for a single household. But the moment we start thinking together — as a community — the problem changes shape.

Regenerative design is not about toilets. It's about flows.

In nature, water only becomes healthy when it moves through patterns that oxygenate, structure, and renew it — like in a mountain stream or a flowform. Human systems work the same way. When waste, water, nutrients, and energy move through connected loops, the whole system becomes alive and self-supporting.

Spaceships already work this way — nothing leaves, nothing comes in. Earth is no different. The technology exists. The knowledge exists. What's missing is the collective shift:

From individual solutions to shared systems, from objects to flows, from "me" to "we."

This is the leap from shit... to spaceship.

A community that understands its flows can regenerate itself — indefinitely.

<https://www.eawag.ch/en/departement/sandec/digital-learning/ecompendium/>

INDIVIDUAL → COMMUNITY → PLANETARY

Quantum Theory and Atomic Structure, as an effect of the Quantum Electromagnetic Field:

And that is how water moving through flowing forms, rejuvenates itself as if in a mountain stream.

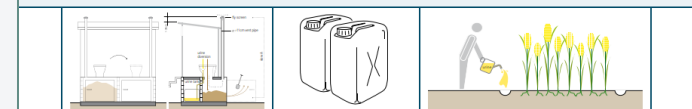
hydroxyl-hydronium complex

H₃O⁺

Quantum Electromagnetic Field

Quantum Electromagnetic Field

System 4: Waterless System with Urine Diversion



Birkeland Currents

BIRTH OF A SPIRAL GALAXY

from evolution of long-range attractions of intergalactic plasma current filaments

Cross-section of Galactic "Birkeland Current" Filament Pairs

Cross-section of Spiral Galaxy Formation

Electromagnetic Z-pinch effect

gravitational potential energy

Lorentz force

continuous medium





QAIB

QAIB is an official partner of the NASA GLOBE Program and the UNOOSA Open Universe initiative, advancing citizen science and regenerative design through field-based intelligence and open data collaboration.

O QAIB é parceiro oficial do Programa NASA GLOBE e da iniciativa Open Universe da UNOOSA, promovendo ciência cidadã e design regenerativo por meio de inteligência de campo e colaboração em dados abertos.

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Bridging Cosmos, Intelligence, and Regeneration




OBRIGADO / THANK YOU
(for your time and the opportunity to collaborate)

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(in partnership with the Quantum Archaeoastronomy Institute of Brazil – QAIB)

Nota / Note:

Todos os projetos são acompanhados pela nossa assistente virtual Aeva, que organiza comunicação, arquivos e prazos.

(All projects are coordinated through our virtual assistant Aeva, who helps manage communication, documentation, and scheduling.)

When you're ready to move forward, Aeva will guide you through the next stage of concept development.

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