

# Systems Thinking Module

**Purpose:** Introduces learners (ages 10–18) to systems thinking, a core competency of the *Regenerative Educational Systems Implementation Framework*, enabling them to map, analyze, and intervene in complex systems (e.g., ecosystems, communities, economies) as outlined in the spiral dynamics curriculum ([Section 3.2](#)). This module fosters critical thinking and regenerative problem-solving, aligning with SDG 4 (Quality Education) and SDG 13 (Climate Action).

## Usage:

- **Who:** Educators, youth facilitators, and community leaders delivering the “Start with the Seed” kit in Tier 1 micro-pilots ([Section 4.3](#)).
- **How:** Implement the module over 4–6 weeks (8–12 hours) through hands-on activities, discussions, and projects, adaptable to local contexts.
- **When:** As part of pilot curriculum integration ([Section 4.4.1](#)) or standalone workshops in the Seed Kit ([Section 4.3](#)).
- **Formats:** Editable Word document, PDF, and markdown, available in 10+ languages, with accessible versions (e.g., audio, braille, visual aids).

## Equity Safeguards:

- Ensures 50% participation from marginalized groups (LGBTQ+, Indigenous, neurodiverse, disabled, caste-oppressed, refugees) in activities and leadership roles.
- Multilingual and low-tech materials (e.g., oral storytelling, tactile diagrams) support accessibility in low-connectivity or low-literacy regions.
- Community-led adaptation ensures activities reflect local ecosystems and cultural priorities ([Section 5.5](#)).
- Safe, inclusive spaces with anonymous feedback protect vulnerable learners in sensitive contexts.

# Systems Thinking Module

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# Overview

**Duration:** 4–6 weeks (8–12 hours total, 2–3 hours per week).

**Learning Outcomes** ([Section 5.2](#):

- Identify elements, connections, and feedback loops in a system (80% proficiency target).
- Analyze system behavior and propose regenerative interventions (70% proficiency target).
- Collaborate inclusively, demonstrating empathy and cultural awareness (75% improvement target). **Structure:** Four units, each with activities, reflections, and assessments, designed for spiral dynamics stages (e.g., tribal, modern, integral, [Section 3.2](#).

## Unit 1: Understanding Systems

**Purpose:** Introduce systems thinking concepts (elements, connections, feedback loops) through local contexts ([Section 3.2](#).

**Duration:** 2–3 hours.

**Activities:**

### 1. Story Circle (45 min):

- Learners share stories about their community or ecosystem (e.g., a river, market, school).
- Prompt: “What parts make up this place? How do they connect?”
- Facilitator draws a simple system map (e.g., river → fish → farmers → market) on a board or sand.
- Equity: Oral storytelling for non-literate learners, multilingual prompts.

### 2. System Hunt (45 min):

- In small groups (50% marginalized representation), learners explore a local system (e.g., garden, village) and list 5–10 elements (e.g., plants, water, insects).
- Create a poster or tactile model showing connections (e.g., water feeds plants).
- Equity: Tactile models for visually impaired, sensory-friendly spaces.

### 3. Reflection (30 min):

- Discuss: “What surprised you about how things connect? How do people shape this system?”
- Record responses in journals, audio, or drawings for accessibility.

**Materials:** Paper, markers, sand/clay for models, audio recorders.

**Assessment:** System map with 5+ elements and 3+ connections (scored via M&E rubric,

## Section 10.1.

**Customization:** Use local systems (e.g., coral reefs in Pacific Islands, urban transport in cities).

# Unit 2: Mapping Feedback Loops

**Purpose:** Explore system dynamics (reinforcing and balancing feedback loops) using real-world examples ([Section 3.2](#)).

**Duration:** 2–3 hours.

**Activities:**

### 1. Feedback Loop Game (60 min):

- Simulate a system (e.g., population growth: more people → more food needed → more farming → more people).
- Learners act as elements (e.g., farmers, crops), adjusting roles to show reinforcing loops.
- Introduce a balancing loop (e.g., water scarcity limits farming).
- Equity: Physical or verbal roles for accessibility, multilingual instructions.

### 2. Local Loop Mapping (45 min):

- Groups map a local system's feedback loops (e.g., deforestation: more logging → less trees → more erosion → less soil → less trees).
- Use diagrams, string, or oral descriptions to show loops.
- Equity: String models for tactile learners, oral mapping for non-literate.

### 3. Reflection (30 min):

- Discuss: "What happens when a system grows too fast? How can balance help?"
- Record in accessible formats (e.g., voice notes, visual journals).

**Materials:** String, paper, markers, audio recorders.

**Assessment:** Feedback loop diagram with 1 reinforcing and 1 balancing loop (scored via M&E rubric, [Section 10.1](#)).

**Customization:** Focus on local issues (e.g., water cycles in Sahel, urban waste in cities).

# Unit 3: Analyzing System Behavior

**Purpose:** Analyze system patterns and unintended consequences, fostering critical thinking ([Section 5.2](#)).

**Duration:** 2–3 hours.

**Activities:**

### 1. Case Study Discussion (45 min):

- Present a local case (e.g., overfishing: more fishing → fewer fish → less income → more fishing).
- Learners identify patterns (e.g., collapse) and consequences (e.g., hunger).
- Equity: Multilingual case summaries, oral discussions for accessibility.

### 2. What-If Scenarios (60 min):

- Groups propose changes to the system (e.g., fishing quotas, alternative jobs).
- Predict outcomes using “if-then” statements (e.g., “If we limit fishing, then fish populations may recover”).
- Create a visual or oral presentation of scenarios.
- Equity: Visual aids for neurodiverse learners, anonymous input for shy participants.

### 3. Reflection (30 min):

- Discuss: “What unintended effects might our solutions create? How can we plan for them?”
- Record in journals, audio, or drawings.

**Materials:** Case study handouts, paper, markers, audio recorders.

**Assessment:** Scenario presentation with 2+ outcomes predicted (scored via M&E rubric, [Section 10.1](#)).

**Customization:** Use local cases (e.g., soil erosion in Amazon, traffic congestion in urban hubs).

## Unit 4: Designing Regenerative Interventions

**Purpose:** Apply systems thinking to propose regenerative solutions, integrating with regenerative projects ([Section 3.3](#)).

**Duration:** 2–3 hours.

**Activities:**

### 1. Community Project Design (90 min):

- Groups select a local system challenge (e.g., polluted river, food insecurity).
- Map the system (elements, loops, patterns) and propose a regenerative intervention (e.g., permaculture, water filtration).
- Create a project plan using the regenerative project guide ([Section 10.1](#), including roles and resources).
- Equity: 50% marginalized leadership, oral plans for non-literate learners.

### 2. Presentation and Feedback (45 min):

- Groups present plans to peers and community members, using visuals, oral, or tactile formats.
- Collect feedback via anonymous surveys or oral comments to refine plans.
- Equity: Accessible presentation formats, safe spaces for feedback.

### 3. Reflection (30 min):

- Discuss: “How will our solution restore balance? Whose voices shaped it?”
- Record in accessible formats.

**Materials:** Paper, markers, string, audio recorders, project guide template.

**Assessment:** Project plan with system map and intervention (scored via M&E rubric, [Section 10.1](#)).

**Customization:** Align with local priorities (e.g., mangrove restoration in coastal areas, urban gardens).

## Facilitation Guide

**Purpose:** Supports educators in delivering the module with equity and engagement ([Section 3.8](#)).

### Tips:

- **Preparation:** Complete 10-hour systems thinking training ([Section 3.8](#), review regenerative project guide ([Section 10.1](#)).
- **Equity:** Ensure 50% marginalized participation, use multilingual prompts, and provide sensory-friendly spaces.
- **Engagement:** Use storytelling, games, and local examples to maintain interest.
- **Adaptation:** Adjust activities for age (e.g., simpler maps for ages 10–12, complex loops for 16–18) and context (e.g., rural vs. urban).
- **Safety:** Offer anonymous feedback and conflict resolution via restorative circles ([Section 3.4](#)).

## Assessment and Evaluation

**Purpose:** Tracks learner progress and module impact, aligning with M&E ([Section 5](#)).

**Methods** (via M&E rubric, [Section 10.1](#)):

- **Quantitative:**
  - Systems Thinking Proficiency: 80% of learners map 5+ elements and 2+ loops.

- Collaboration: 75% demonstrate empathy in group work.
- Project Completion: 70% propose viable interventions.
- **Qualitative:**
  - Learner Reflections: Journals or oral stories on system insights.
  - Community Feedback: Surveys or forums on module relevance.
- **Data Collection:** Pre/post-assessments, peer evaluations, anonymous surveys.
- **Reporting:** Share results via global dashboard ([Section 5.8](#), integrate into youth stories ([Section 7.2.2](#)).

#### Customization:

- Add local metrics (e.g., cultural knowledge integration for Indigenous learners).
- Use oral or visual assessments for accessibility.

## Instructions for Use

1. **Prepare Facilitators:** Train educators using framework training protocols ([Section 3.8](#), ensuring equity focus.
2. **Adapt Module:** Customize activities and examples to local ecosystems and cultures, engaging community boards ([Section 5.5](#)).
3. **Deliver Module:** Implement over 4–6 weeks, using accessible materials and inclusive facilitation.
4. **Assess Progress:** Use M&E rubric to track outcomes, ensuring 50% marginalized input ([Section 10.1](#)).
5. **Share Impact:** Document stories and results via multimedia ([Section 7.2](#), share with global forums ([Section 5.10](#)).
6. **Iterate:** Refine based on learner and community feedback, using real-time loops ([Section 5.7](#)).

## Example Use (fictive)

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In Thailand, this module was piloted with 200 learners, achieving 85% systems thinking proficiency and 80% empathy gains. Learners mapped a local river system, proposing a filtration project that reduced pollution by 20%, with 40% Indigenous and refugee leadership, informing national curriculum integration ([Section 8.4](#)).

# Cross-References

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- Spiral Dynamics Curriculum ([Section 3.2](#))
- Regenerative Ecosystems ([Section 3.3](#))
- M&E Framework ([Section 5](#))
- Regenerative Project Guide ([Section 10.1](#))
- M&E Rubric Template ([Section 10.1](#))
- Spiral Dynamics Pilot Case Model ([Section 8.4](#))

## Download

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Available at [framework website](#) as Word, PDF, markdown, and accessible formats (audio, braille, visual aids). Contact [[globalgovernanceframework@gmail.com](mailto:globalgovernanceframework@gmail.com)] for translation requests or support.