

16 JUNE 2026



Session n°21:

Advancing agroecology for Caribbean SMEs



Caribbean Agrifood Business Series ...



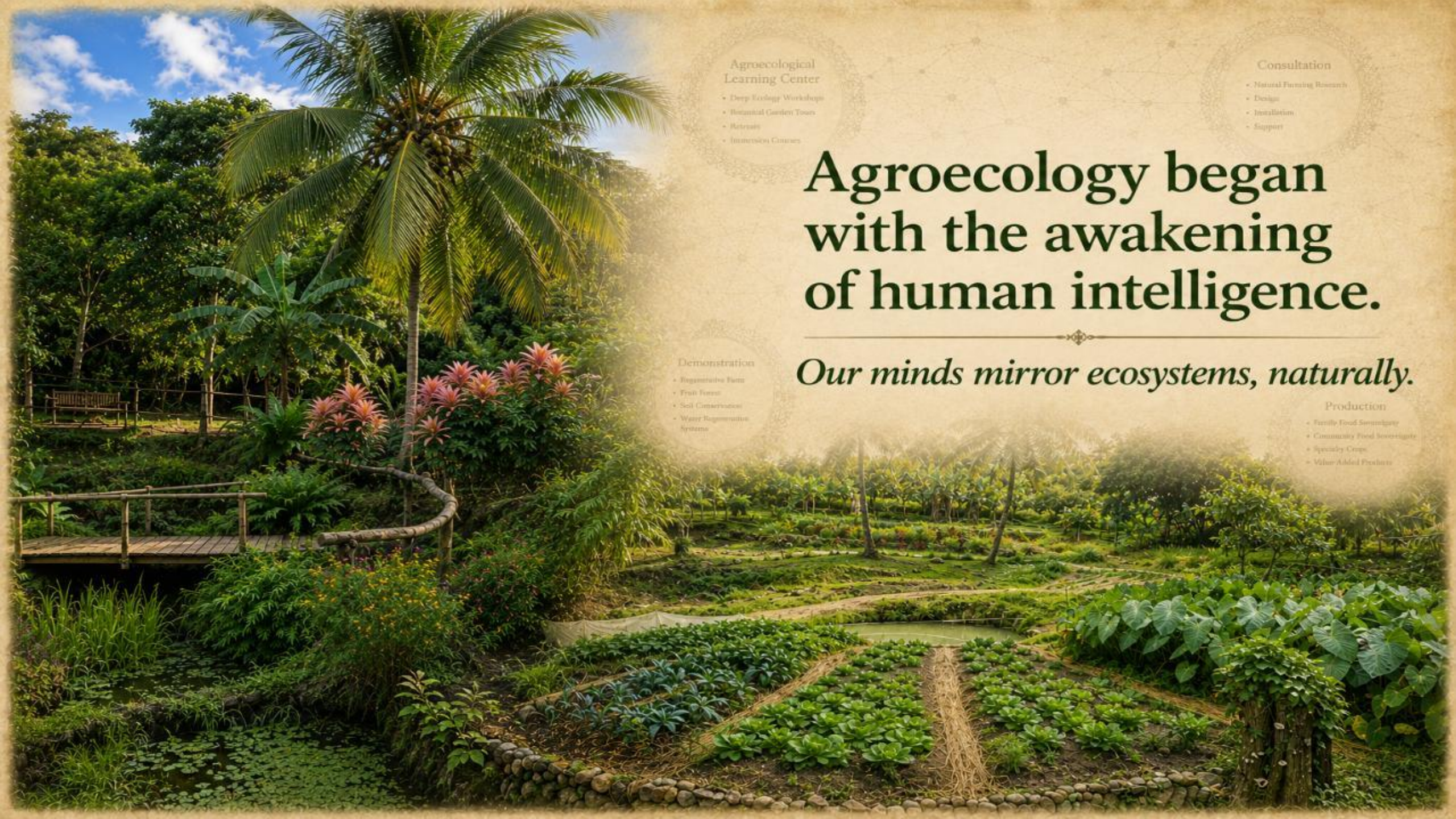
Funded by
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Agroecological Learning Center

- Deep Ecology Workshops
- Botanical Garden Tours
- Retreats
- Immersion Courses

Consultation

- Natural Farming Research
- Design
- Installation
- Support

Agroecology began with the awakening of human intelligence.

Our minds mirror ecosystems, naturally.

Demonstration

- Regenerative Farm
- Fruit Forest
- Soil Conservation
- Water Regenerative Systems

Production

- Family Food Sovereignty
- Community Food Sovereignty
- Specialty Crops
- Value Added Products

Agroecology in Action:

Our Ecosystem of Services

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New Flower Regenerative Garden

Demonstration

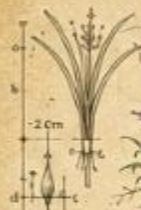
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Wisdom in the Weeds

Cyperus rotundus
(Purple Nutsedge)



a. spikelet
b. nutlet
c. rhizome
d. tuber

Common in wet soils and cultivated fields.



Cucumis melo var. *agrestis*

Echinochloa crus-galli

Amaranthus spinosus

Ipomoea triloba

Mucuna pruriens



Memory of the Ecosystem

Cropping System Impact on Ecosystem Health and Efficiency

Ipomoea sp.
(Morning Glory)



Vines as bioindicators—reflect soil condition and nutrient cycles.

Indicators of Current Soil Health

Seed Bank Diversity



Dormant Potential

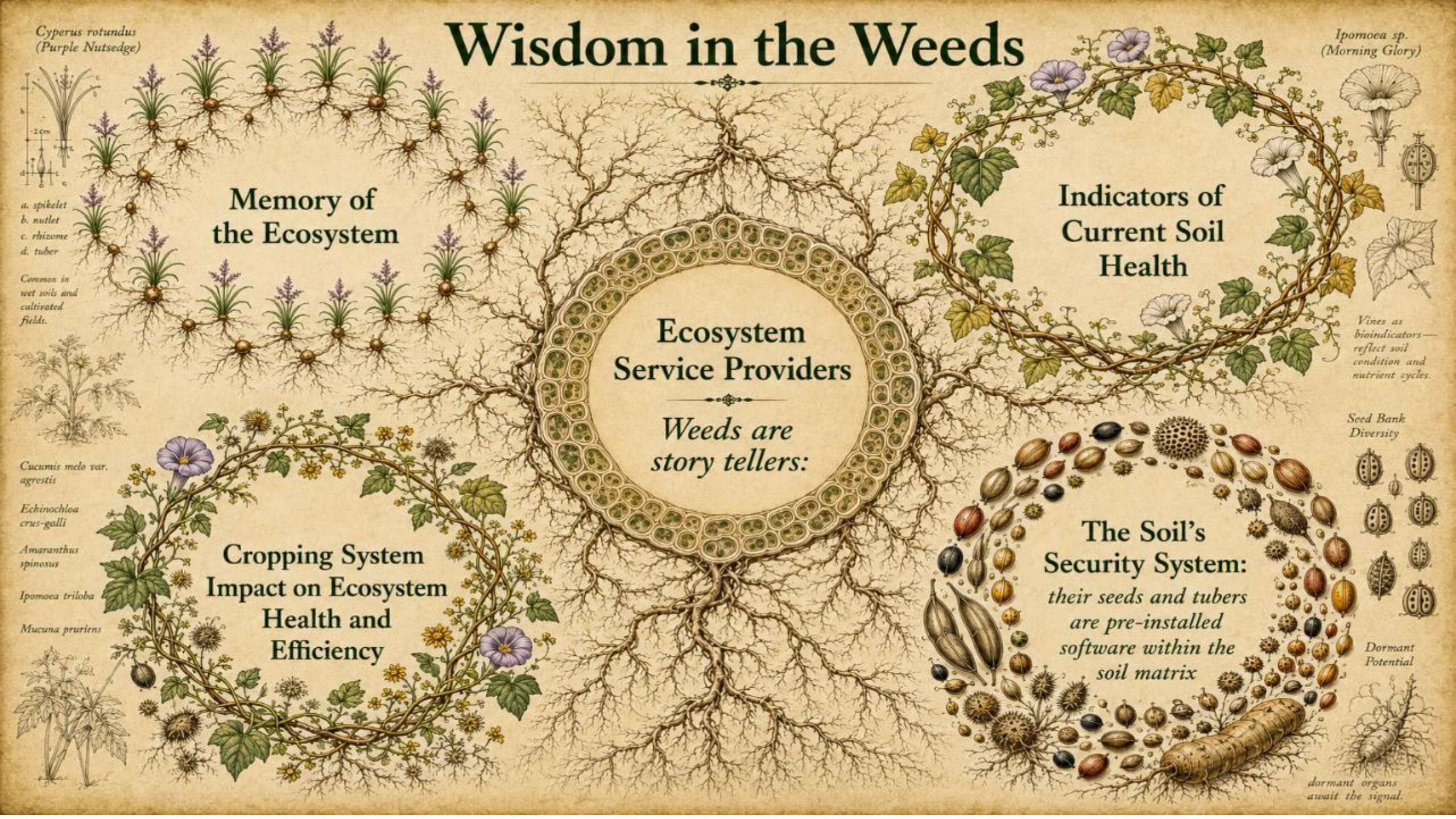


dormant organs await the signal.

Ecosystem Service Providers

Weeds are story tellers:

The Soil's Security System: their seeds and tubers are pre-installed software within the soil matrix



Two failures of the conventional agriculture paradigm affecting Caribbean small farm businesses

| | | |
|--|---|---|
| <p>Legacy Agricultural Problems vs. Failed Conventional Methodology</p> | <p>Nut Grass infestations re-occur every year despite labor intense weeding</p> | <p>Small-scale farming is financially unviable in harsh tropical environments</p> |
| <p><u>Conventional description of perceived problem</u> limiting production capacity</p> | <p>Allowing it to ‘take-over’ limits nutrients, water, & crop rooting affecting yield</p> | <p>Inconsistent production, & insufficient scale to meet demand</p> |
| <p><u>Conventional prescription or approach</u> to address problem</p> | <p>Repeated herbicide applications Intense weeding with soil disturbance</p> | <p>“Farming is a business”, grow to meet the market. Continuous increase in Agrochemical use</p> |
| <p><u>Conventional outcomes</u></p> | <p>Infestation is ‘controlled’ during crop cycle, but reappears after subsequent soil preparation</p> | <p>A few innovative operations succeed, most remain classified as subsistence and rely on other incomes</p> |

| | | |
|--|--|---|
| <p>Legacy Agricultural Problems vs. Agroecosystems Approach</p> | <p>Nut Grass infestations re-occur every year despite labor intense weeding</p> | <p>Small scale farming financial unviability in the region</p> |
| <p><u>Agroecological description of the perceived problem</u> limiting production capacity **Focus on finding root-causes not symptoms</p> | <p>Understanding ecological niche is the first step to restoring ecological balance. What services does Nut grass provide??</p> | <p>Marginalized farmers on marginal lands use methods that further degrades their systems production capacity</p> |
| <p><u>Agroecosystems approach</u> 1. Environmental factors 2. Ecosystem service providers (ESP) inventory 3. Maximize system productivity by maximizing solar capture</p> | <p>Soil never exposed to sunlight, by using: minimal tillage, Mulches, Biointensive relayed intercrops, and controlled fallow periods to maximize diversity and vigor</p> | <p>Commodity farming (sugar, and bananas) subverted the development course for advanced natural farming. Our systems need to maximize diversity of knowledge & experience.</p> |
| <p><u>Agroecosystem orchestration outcomes</u></p> | <p>As photosynthetic density increases per area; Nutgrass pressure decreases proportionally</p> | <p>Increasing agroecological/regenerative knowledge density increases crop productivity.</p> |

Thank you

