REVIVE
Regenerative Earthworks and Vegetation in Vulnerable Ecosystems

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Bare soil is losing water and nutrients
Regenerative Agriculture

Combine crops, trees, annuals, perennials

Use organic methods of pesticide and fertilizer
Designing on Contour

- Water flows across surface:
  - Most runs off slope.
  - Water has short contact time with soil, very little is absorbed.

- Water flows into trenches:
  - Almost no run-off.
  - Water sits in trenches and slowly soaks deep into soil.
Integrated Vegetation Systems

- Polycultures
- Companion Planting
- Push-pull
- Biodiversity
- Resilient systems
Designing around efficiency

For Human Energy

For Natural Factors

Influences affecting the farm site.
Natural Solutions

- **Fertilizers:** manure, compost

- **Pesticides:** Neem, Tobacco, Chili

- **Termites:** Ash

- **Fencing & shelter:** fast-growing timber & bamboo

- **Little to no construction:** focus on earthworks and vegetation

- **Biodiversity** and companion planting
Water, Carbon, and Nitrogen
Water catchment & infiltration

How much rain can we capture?

100 mm of rain falling on 1 square meter = 100 liters. This is the same as five 20-liter jerry cans of water.

Some 60,000 liters of water falls on a 20-meter by 30-meter plot of land in a 100 mm rain. This is equivalent to 3,000 jerry cans of water.

But the rainfall that runs off a plot of land is lost by the farm.
Water catchment & infiltration
Double-Dug Beds, Raised Beds
(on contour)
Planting Circles (Papaya, Banana)
Also used for greywater management
Trees

- Management
  - District
  - Refugee groups

- Species
  - Multi-purpose
  - Preferably indigenous
  - Strictly no invasives
  - Careful of monoculture
    - (pine, eucalyptus)
  - 20+ species per nursery
Covering Soil
Using perimeters of compounds (the “edge” effect)
Challenges

- Many people are not confident in marking contour lines or designing on contour
- Short-sighted species are preferred by refugees, which limits options for tree preferences
- Water sources inconsistent, unpredictable, reliance on rain-fed means it takes a few seasons for full benefit to be realized
- Host community district technical officers tend to advise on monocultures or questionable species selection (e.g. eucalyptus and pine)
- Incorporating animals requires close attention and careful management