

Session 2
Design Strategies: Incorporating Agroecological Strategies

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- Clients often focus on the well or canal that brings them water
 - They are disconnected from the hydrologic processes that determine how the water gets there
 - This segregation of water supplies from their sources is a critical reason why water management issues are so common
- Principles can be a filter through which we make decisions
- Water-harvesting strategies can be a type of wealth management
 - By improving the water source and availability, practitioners are improving their own livelihoods
- **3 different classes of water management**
 - 1. Degenerative Infrastructure**
 - Begins degrading as soon as it is built
 - Requires ongoing investment
 - Consumes more than it produces
 - Degrades the surrounding area
 - Only serves one function
 - Irrigated farmland is an example
 - Deposits salts that can impair plant growth
 - Large volumes of water are required to flush the accumulated salts to subsoil depths
 - 2. Generative Infrastructure**
 - Begins degrading as soon as it is built
 - Requires ongoing investment
 - Produces more than it consumes
 - Conserves other resources
 - Serves multiple functions
 - A rock wall across a slope is generative infrastructure
 - Controls the flow of water but also catches eroded sediments, allowing seeds to germinate
 - These plants then provide root cover that further stabilizes the soil structure
 - Because of this, the overall velocity of water down the slope will now be at less destructive speeds
 - Rock wall will require periodic oversight and maintenance

3. Regenerative Infrastructure

- Able to repair/regenerate itself
- A living system that grows and improves over time
- Produces more than it consumes
- Conserves other resources
- Serves multiple functions
 - Example: a “one-rock check dam” can restore eroded hillsides with vegetation and improved soil structure
 - Disrupts water flow, allowing erosive sediments to fall out of the stream and build around the rock
 - In the alluvial sediments, seeds will germinate and the plants go on to further slow water movement
 - Once plants have grown on the banks, water can move uphill through capillary action and be distributed throughout a wider area than the original narrow, fast-moving stream