

**Session 2**  
**Design Strategies: Incorporating Agroecological Strategies**

**Speaker: Warren Brush**

- Currently farms over 30 acres on two sites
  - Was able to buy one of the sites at a steeply discounted price
    - The water table was so low that the previous owners believed farming was impossible on the land
- Most of the farmers Brush knew could not live off the food they grow on their farm
  - The monoculture crops they cultivate would not meet their nutrient needs
- “Permaculture”: a generalist science that translates chemical, biological, and hydrological principles into site-specific considerations
- Permaculture design is how the farmer patterns landscape design in relation to slope, sunlight, precipitation, and other environmental factors
  - A large part of permaculture involves observation as well as trial and error
- Redefine “wealth” to include an abundance of natural resources
  - In this sense, soil fertility is a form of wealth
  - By viewing soil fertility as wealth, farmers were “investing” in wealth when they adopted soil-building practices
- Success story of permaculture site in Kenya
  - On 5-acre plot that used to be a dump site, the soil was remediated and eventually fed 100+ children in the community
  - This site transitioned from “extractive agriculture” to “soil-building agriculture”
  - In the first year of the program, “pioneer” plants were sown to establish biomass on the barren plot
    - These pioneer trees were selected because they were hardy species tolerant to the poor conditions of the site
      - As they grew, they had a beneficial impact on the soil and permitted other plants to eventually be introduced
        - Mimicking ecological succession
  - The community also built a biogas digester, where human waste was used for energy capture
  - By Year 4, there was an agroforestry system in place, with alley-cropped trees alongside perennial and annual crops
    - Nutrition per square meter of this system was ten times that of monoculture

- Biodiversity built into the system mitigated food shocks
  - One crop failure did not mean total crop failure