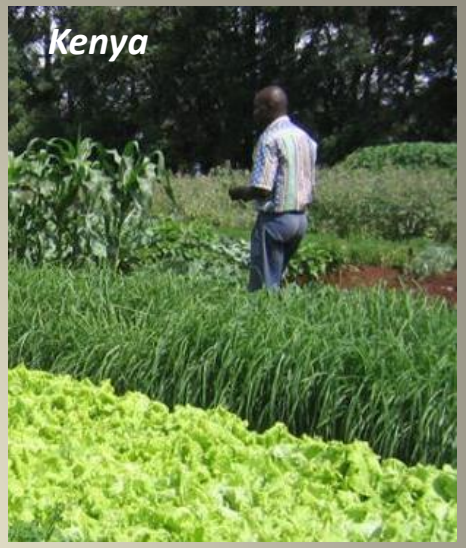

Thursday 2:30-5:30PM

W7: Implementing an Ecologically Sustainable Food Production System to Address the Food-Energy-Water Nexus

- ***What are the role, constraints and opportunities for implementing a biologically intensive agriculture?***
- ***45 years of practice, data and lessons learned from 151 countries - arid to tropical***
- ***The most water- carbon- calorie-efficient crops***
- ***Applying sustainability metrics***
- ***Policy, education and business strategies***
- ***Panel features systems analyst John Jeavons, co-founder of Ecology Action***

How can we grow more food *sustainably*?

- **Modern Agriculture**
  - **Significant soil loss from erosion, degradation**
  - **Energy intensive: 10 calories in = 1 cal food**
  - **Requires fossil-fuel derived fertilizers, pesticides, herbicides**
  - **Water/irrigation intensive**
  - **Depletes carbon in the soil: CO_2 emitter**
  - **Destroys soil food web**
  - **High yields, calories**

- **Antidote System**
  - **Rebuild healthy soil quickly & retain it**
  - **Low energy, non-fossil fuel inputs; calories out/in > 1**
  - **Naturally regenerates fertility; healthy pest & weed-free ecosystem**
  - **Retains water naturally; little/no irrigation**
  - **Re-builds carbon in the soil: CO_2 sequesterer**
  - **Nurtures soil food web**
  - **High yields, calories**

Additional Sustainable Food Production Parameters for Feeding Billions

- **Modern Agriculture** 
  - Water run-off
  - Chemical contamination of soil and water
  - Nitrous oxide greenhouse gas from nitrogen run-off
  - Genetically modified seeds
  - Dangerous large machinery
  - Animal protein bias
- **Antidote System**
  - Water infiltration
  - No chemicals: clean soil and water
  - No excess nitrogen compounds; natural nitrogen cycling
  - Open-pollinated seeds that can be saved
  - Appropriate “smart tech” implements
  - Vegetable protein bias

W7 Session Format

- **Part 1: Intro to a Biologically Intensive Agriculture that addresses the F-E-W Nexus**
- **Part 2: Assessing the water, energy and sustainability of candidate agricultural systems**
- **Part 3: What are the role, constraints and opportunities for implementing a biologically intensive (and ecologically sustainable) agriculture as a nexus solution?**

Please see Part 1.2 to continue

Intro to a Biologically Intensive Agriculture that addresses the F-E-W Nexus

John Jeavons, Ecology Action