

CE 890 Graduate Seminar

SPEAKERS: Emily Wicoff, M.S. graduate student (Advisor: Dr. Steven Starrett)
Allie Archer, BAE Senior Project student
Emily Tummons, BAE Senior Project student
Alan Winter, BAE Senior Project student

TOPIC: Aquaponics in Uganda: Renewable Food Source for Community Self-Sustainability

DATE: December 1, 2010

TIME: 4:00 p.m. (refreshments at 3:45 p.m.)

PLACE: 1052 Rathbone Hall

ABSTRACT

Aquaponics is a recirculating agricultural system comprising both aquaculture (fish farming) and hydroponics (growing plants in water without soil). The plants serve as a water purifier, eliminating the need for expensive and highly technical filtration found in traditional tank aquaculture. The result is a low-tech agricultural system that has vast potential to provide both fish (protein) and vegetables (nutrients) to rural communities in developing nations.

Existing aquaponic technology is adapted and made culturally and economically viable for the target communities. A multi-disciplinary endeavor, water quality and quantity remain the prime factors in establishing a productive facility. A pilot facility in Manhattan, KS tests and establishes practical operating densities and fish/plant ratios. Compiled documents provide a detailed and realistic implementation plan.

The target region for the current work is Northern Uganda. Multiple impoverished and malnourished rural communities exist today due to the vicious cycle of war, insufficient education, and lack of resources. Tilapia, an African cichlid well known in Uganda, and locally grown vegetables familiar to the native population are identified for facility production.

Actual in-field implementation will be performed under Two Fish Foundation, Inc., a recently founded 501(c)(3) non-profit dedicated to developing economically feasible aquaponic agricultural facilities for the benefit of impoverished developing nation communities. Two Fish is in partnership with a U.S.-founded/Africa-based organization in northern Uganda that will assume ownership of the first facility.