Master Plan Demonstration Farm
Lake Bosomtwe, Ghana

Statement of the Problem & Background
- The Lake Bosomtwe district has been subjected to overfishing and environmental degradation.
- The improper application of fertilizers and overfishing has led to the depletion of fish in the Lake.
- Residents of the area have transitioned to farming as their main vocation because fishing is no longer an option.
- 97.6% of the people living in Lake Bosomtwe are involved in rural crop farming.
- These farmers have little to no experience in areas such as crop rotation, fertilizer use, and erosion control.
- The Average household income is $100
- An extension demonstration farm is needed to demonstrate improved agricultural practices to farmers that works alongside local extension.

Objective
- To develop a master plan demonstration farm document, which will be used to create an extension demonstration farm.
- The farm will serve as a demonstration to the Lake Bosomtwe community of improved agricultural methods.
- Local agriculture extension officers will participate in the use of the farm.
- The Amakom Methodist Clinic currently manages the farm land and will continue to oversee the management of it.
- Proceeds produced from the farm will go back to further expand the activities of the Clinic.

Global/Societal Impact
- Visual example of improved methods
- Increase yield potential
- Improve house hold incomes
- Increase Food Security

Amakom Methodist Clinic
- Provide an additional source of income
- Increase the number of patients assisted
- Partnership development

Design Constraints
- Salt Tolerant Crops
- Plant optimization
- Low Cost
- Culturally Appropriate
- Value Added
- Water quality
- Access/Season
- Land Ownership
- Crop Water Requirement
- Local Variety
- Value Added
- Creative

Crop Criteria
- EC (1-8 ds/m or higher)
- Wide Temperature Range
- pH (3.3-9.5)
- Crop Water Requirement
- Local Variety
- Value Added
- Creative

Methods Criteria
- Decrease runoff
- Increase infiltration
- Increase O.M.
- Promoted by local Extension
- Practice adapted to varying climates
- Tolerant of extreme soil conditions
- Slope protection

Resources:
- Dr. Richard Stroshine
- Dr. Richard Grant
- Mr. Larry Theller
- Dr. Cam Gongwer M.D.
- Mr. Hilton Terry Kesse P.A.
- Ghana Statistical Serve

Sources:
1. UNESCO
2. Dr. Carlos Roberto de Souza Filho
3. ECHO
4. USDA-NRCS
5. Ghana Statistical Serve

Technical Advisor:
Dr. Margaret Gitauf
Prof. Stan Harlow

Instructors:
Dr. Bob Stvalley
Dr. Bernie Engel

Sponsor:
The Methodist Church
Ghana, Kumasi Diocese

Global Resource Connections

Moving Forward
- First Phase completed
- Travel to Ghana to conduct soil survey, establish baseline, and plant seed.
- Continuation of the project for Graduate school at Purdue University in Agricultural & Biological Engineering