Africa Projects – 2011
Pharos Global Agriculture Fund

Presentation Topics

- Pharos Ag Overview
- Tanzania Focus
- Project Descriptions
  - Agrisol Tanzania Farming
  - Agrisol Tanzania Outreach
  - Tanzania Cattle Processing
  - Tanzania Rice Farming
  - Sudan Farming
Pharos Global Agriculture Fund – Vision

The Pharos Global Agriculture Fund ("Pharos Ag") is focused on capturing long term value through investments in arable farmland and related assets. To create value, Pharos Ag will:

- Focus on income generation and long term asset value appreciation
- Make investments in diversified global locations
- Capture value up and down the agribusiness value chain
- Ensure investments are made in a sustainable manner with a focus on integration with local smallholder population
# Pharos Ag – Key Executives

<table>
<thead>
<tr>
<th>Team Member</th>
<th>Role</th>
<th>Background</th>
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<tbody>
<tr>
<td>Bruce Rastetter</td>
<td>CEO</td>
<td>Bruce founded and owns Summit Group, a diversified farming and livestock operation headquartered in Iowa. Bruce is also on the board of Agrisol LLC, a company focused on developing a large scale farming and farmer outreach program in Tanzania. Prior to joining Pharos Ag, Bruce was CEO of Hawkeye Energy Holdings, one of the largest ethanol producers in the US, and founder of Heartland Pork, a large scale hog operation. Bruce was recently appointed to the Iowa Board of Regents that oversees the public universities in Iowa, including the University of Iowa and Iowa State University.</td>
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<tr>
<td>Peter Halloran</td>
<td>Managing Director</td>
<td>Peter is CEO of Pharos Financial Group, a specialist emerging markets investment firm based in Dubai with Moscow and New York offices. Founded 14 years ago with capital from Credit Suisse and Soros Fund Mgmt, the firm manages 3 investment funds and 2 private equity vehicles. Pharos was awarded Best Hedge Fund in 2010 by Hedge Funds World ME with a 10 yr ann. return of 25.6%. Prior to Pharos, Peter established CS First Boston as the leading investment bank in the FSU while bringing more than $8bn to capital markets in the region. Peter has also acted as Advisor to Soros Fund Mgmt. He earlier worked at Salomon Bros. and Morgan Grenfell in New York after graduating from Yale in 1984.</td>
</tr>
<tr>
<td>Tim Callahan</td>
<td>CFO</td>
<td>Tim also serves as a Managing Director at the Summit Group, assisting the company in its expansion plans and strategy. Tim is a principal of Agrisol LLC, working on the development of the Tanzania farming project. Prior to joining Pharos Ag, Tim was CFO of Hawkeye Energy Holdings, an investment banker in the M&amp;A group at Credit Suisse and a consultant at Arthur Andersen where he worked on land privatization projects in Russia. Tim has broad international experience, having worked in several countries including Mexico, Spain, Brazil and Russia.</td>
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The Pharos team has deep experience in agriculture, investing and international business.
Pharos Ag – Integrated Industry Focus

Farm Inputs:
- Seeds
- Fertilizers
- Equipment

Farmland:
- Crop production
- Land management
- Land improvement

Logistics:
- Grain origination
- Trading
- Transportation

Processing:
- Grains
- Oils
- Poultry
- Cattle
- Pork
- Biofuels
- Food

Value shifts over time around the agribusiness value chain, thus necessitating an integrated approach.
Pharos Ag is evaluating opportunities in multiple regions to create geographic and geopolitical diversity, value enhancement and sustainability.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Pharos Financial Group</strong></td>
<td>Founded in 1997, Pharos is a specialist EM investment firm managing 3 investment funds and 2 private equity vehicles. The firm’s award winning investment performance reflects its ability to find, analyze and manage superior investment opportunities. It has a long track record of structuring and managing investments across capital markets.</td>
</tr>
<tr>
<td><strong>Summit Group</strong></td>
<td>The Summit Group is an extensive farming and livestock operation headquartered in Iowa. Summit manages and farms nearly 40,000 row crop acres in Iowa, Nebraska, Minnesota and Illinois. Summit also has a cow-calf operation, 4,300 beef production spaces in its beef operation and 150,000 swine contract finishing spaces in its pork operation. Summit is owned by Bruce Rastetter. Tim Callahan is a Managing Director at the Summit Group.</td>
</tr>
<tr>
<td><strong>Jantzen Development</strong></td>
<td>Jantzen Development is a leading international provider of farmland investments headquartered in Denmark with local branches in Slovakia and Romania. Jantzen Development acquires farmland in Central and Eastern Europe for subsequent leasing to professional operators and develops and manages these investments for investors. Jantzen has a strong local presence and comprehensive hands-on experience in the region combined with long-standing and strong relations hips with leading financial institutions.</td>
</tr>
<tr>
<td><strong>Bunge Limited</strong></td>
<td>Bunge Limited is a global agribusiness and food company operating in the farm-to-consumer food chain. Bunge is engaged in oilseed processing, producing and supplying of fertilizer to farmers in South America and selling of packaged vegetable oils worldwide. Bunge</td>
</tr>
<tr>
<td><strong>Agrisol</strong></td>
<td>Agrisol is engaged in the development of a large scale farming operation in Tanzania that will include an innovate outreach program in conjunction with Iowa State University and local institutions. Both Bruce Rastetter and Tim Callahan are active in the development of the Agrisol Tanzania project.</td>
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Pharos Ag has a strong network of global expertise to develop its projects.
Pharos will consider alternative investment structures to meet the Investor’s needs.

- Investment in a new development company along with other investors, including Pharos’ Ag Fund, that will invest across the globe in high value agribusiness opportunities including the Tanzania (TZ) project
- Direct investment in a new company, managed by Pharos Global Ag Management, that owns and manages the Tanzania project plus any other projects Investor is interested in pursuing with Pharos
- Direct investment in a special purpose vehicle for the sole purpose of investing in the Tanzania project

**Alternative 1:**
- Investor
- Pharos Global Ag Management
- New Company
- TZ Project
- Project 2
- Project 3

**Alternative 2:**
- Investor
- Pharos Global Ag Management
- New Company
- TZ project
- Other projects

**Alternative 3:**
- Investor
- Pharos Global Ag Management
- Special Purpose Vehicle
- TZ Project
Tanzania Focus
Pharos Ag, together with the Agrisol team and Summit, will call on their global network of agriculture and agribusiness partners to ensure the effective development of this project using best in class and the most cost-effective technology.
Pharos Ag’s partner Agrisol is developing an innovative outreach program for local farmers in Tanzania. In conjunction with NGOs, local and national government and local universities and business groups, Agrisol will interject local farmers into the farming operation and provide valuable long term community assistance.

The project will stress sustainable modern agriculture techniques including efficient use of fertilizer, quality seeds, irrigation/drainage, crop storage, low tilling, crop rotation, pest management, and integration with livestock and poultry markets.
Why Tanzania?

Sub-Saharan Africa is an ideal location for a project of this type due to the fact it has large expanses of land, underdeveloped agricultural systems and populations that often encounter food security problems.

- Of the countries we analyzed, Tanzania stood out due to the following factors
  - **Stable government.** Tanzania is a peacemaker of Southeastern Africa, having hosted nearly a million refugees from the Rwandan, Congo and Burundian conflicts. The Rwanda Truth and Reconciliation Commission was held in Arusha, Tanzania. The government demonstrated remarkable stability when compared to neighboring countries.
  - **Available land.** Large tracts of uninhabited savanna non-jungle land with quality soil. Massive empty refugee camps provide for quality locations to start farming.
  - **Agricultural culture and history.** 80% of population works in agriculture. Prime Minister is an avid farmer. Support for project from all levels of government.
  - **Universities.** Developed farm research in local agricultural universities (Sokoine)
  - **Net importer of corn/soybeans.** Despite maize being one of the major crops produced in Tanzania, the country is still a net importer of the crop. Tanzania also imports soybean oil in significant quantities. Tanzania could benefit immensely from large scale farming of cash crops.
  - **Importance of cattle/poultry.** Tanzania has higher per capita consumption of meat than Zambia, Burundi, Rwanda, Uganda and D.R.Congo. Government has identified large public ranches that are being privatized to improve meat production in the country. Cattle and poultry are seen as symbols of wealth in the country.
Tanzania is a net importer of maize and soybeans despite large amounts of land dedicated to the production of these commodities.
Tanzania Production Data

Production Levels of Tanzania’s Major Commodities (2008)

Tanzania is a minor producer of cattle and chicken.

Source: FAOSTAT and Index Mundi
The maize price in Tanzania was 48% higher than in the U.S. in 2004 (last available data), while that of live chicken was 106% of the U.S. price.
Agrisol Tanzania – Large Scale Farming and Outreach
Pharos Ag – Africa Project Vision

Pharos Ag management is directly involved in the development of the Agrisol projects in Tanzania. Bruce Rastetter on board of Agrisol Tanzania. Tim Callahan is principal on the development team.

- Agrisol’s vision is to create zones of modern agricultural production in Tanzania that combine the country’s abundant agricultural natural resources with contemporary farming practices that will be the model for developing countries worldwide.

- By investing in modern farming techniques and market infrastructure, Agrisol will transform currently underutilized segments of land into high yielding cropland producing valuable cash crops such as corn, soybeans, sugarcane, rice and wheat.

- The project will add high quality grains to the country’s food reserves, increase food security, form vital local agricultural markets, provide world class extension training from the top agriculture universities and institutions, add hundreds of skilled agriculture jobs for the local population and spur investment in vital agriculture market infrastructure.

- The program will be supported by an innovative world class smallholder outreach program, developed in conjunction with US and local universities, that will provide a valuable link between the local smallholder population and the for-profit farming and agribusiness operations.
The Government of Tanzania has invited Agrisol to help modernize its agricultural system

- The Government has identified three sizable plots of land that Agrisol will develop over time
  - Lugufu – 25,000 hectares, located in Kigoma province
  - Katuma – 80,000+ hectares, located in Rukwa province
  - Mishamo – 220,000 hectares, located in Rukwa province

- Agrisol plans to utilize an innovative staged farming program to develop these areas

- The farming operations will be integrally connected with the outreach/extension program developed in each region
Agrisol – Project Status

Agrisol's development of these projects is at an early stage, but is well underway:

- The status vis-à-vis the Government of Tanzania with respect to each project is as follows:
  - Katuma -- MOU executed, leases being negotiated
  - Mishamo -- MOU executed, leases being negotiated
  - Lugufu -- MOU being prepared

- Relationship development is advancing:
  - TZ’s Prime Minister visited Summit Farms in Fall 2010
  - Iowa State Univ./Sokoine Univ. held joint smallholder outreach seminar in TZ in Feb. 2011
  - US project development team visited TZ in Feb. 2011

- Project evaluation and execution is ongoing:
  - in-country consultancy performing due diligence
  - identifying local farm project managers
  - to receive strategic investor status
  - due diligence ongoing for costs, seeds, fertilizers, machinery, labor, etc.
  - developing all elements of outreach program
## Agrisol – 10 Year Plan

### Lugufu
- 2011: 1-5,000 ha planted
- 2012: 10,000 ha planted
- 2013: 15,000+ planted
- 2014: Test plots
- 2015: Increase plantings as necessary
- 2016: Increase plantings as necessary
- 2017: Increase plantings as necessary
- 2018: Increase plantings as necessary
- 2019: Increase plantings as necessary
- 2020: Increase plantings as necessary

### Katumba
- 2011: Test plots
- 2012: 10,000 ha planted
- 2013: 20,000 ha planted
- 2014: Test plots
- 2015: Increase plantings as necessary
- 2016: Increase plantings as necessary
- 2017: Increase plantings as necessary
- 2018: Increase plantings as necessary
- 2019: Increase plantings as necessary
- 2020: Increase plantings as necessary

### Mishamo
- 2011: Analyze infrastructure
- 2012: Test plots
- 2013: 10,000 ha planted
- 2014: Test plots
- 2015: Increase plantings as necessary
- 2016: Increase plantings as necessary
- 2017: Increase plantings as necessary
- 2018: Increase plantings as necessary
- 2019: Increase plantings as necessary
- 2020: Increase plantings as necessary

### Extension/Outreach
- 2011: Implement continuous program

### Value Added Products
- 2011: Poultry
- 2012: Beef
- 2013: Fuel
- 2014: Fuel
- 2015: Fuel
- 2016: Fuel
- 2017: Fuel
- 2018: Fuel
- 2019: Fuel
- 2020: Fuel

- 2011: Expand as necessary
- 2012: Expand as necessary
- 2013: Expand as necessary
- 2014: Expand as necessary
- 2015: Expand as necessary
- 2016: Expand as necessary
- 2017: Expand as necessary
- 2018: Expand as necessary
- 2019: Expand as necessary
- 2020: Expand as necessary
Lugufu – Site description

Kigoma region
Abandoned refugee camp
~ 25,000 Ha

Potential Production
- Corn
- Sorghum
- Soybeans
- Sugarcane
- Poultry

Market Opportunities
- Kigoma – 164,268 people
- Kasulu – 37,349 people
- Exports to Burundi, Uganda, DRC, Zambia, other countries
- Easy access to transportation
  - Adjacent to tarred highway
  - Central Railway runs directly through it
  - Both lead directly to Lake Tanganyika
- Good infrastructure
- Best soils
- Very few people on property
Lugufu – Current Infrastructure

Infrastructure

- Road
  - Predominantly unpaved
  - Network that runs throughout refugee camp
  - Kigoma – Lugufu road should be paved within two years

- Rail
  - Excellent access to Central Rail

- Buildings
  - Buildings in good condition

- People
  - Very few
Kigoma Region – Crop Yield and Rainfall Data

- 49.84 bu/ha (19.94 bu/acre)  - 40.51 bu/ha (16.2 bu/acre)

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### Rainfall During Growing Season

<table>
<thead>
<tr>
<th>Month</th>
<th>Iowa Falls</th>
<th>Lugufu</th>
<th>Kigoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planting</td>
<td>4.20</td>
<td>0.66</td>
<td>0.7</td>
</tr>
<tr>
<td>4.98</td>
<td>1.71</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>4.23</td>
<td>5.47</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>4.05</td>
<td>6.47</td>
<td>5.9</td>
<td></td>
</tr>
<tr>
<td>3.23</td>
<td>4.88</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>2.38</td>
<td>5.34</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>1.73</td>
<td>6.14</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>1.14</td>
<td>5.76</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>0.87</td>
<td>1.22</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>0.92</td>
<td>0.07</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>2.02</td>
<td>0.03</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>3.31</td>
<td>0.08</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

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### Rainfall Distribution by Month

<table>
<thead>
<tr>
<th>Month</th>
<th>Iowa Falls</th>
<th>Lugufu</th>
<th>Kigoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>0.87</td>
<td>4.88</td>
<td>4.6</td>
</tr>
<tr>
<td>Feb</td>
<td>0.92</td>
<td>5.34</td>
<td>4.8</td>
</tr>
<tr>
<td>Mar</td>
<td>2.02</td>
<td>6.14</td>
<td>5.8</td>
</tr>
<tr>
<td>Apr</td>
<td>3.31</td>
<td>5.76</td>
<td>5.3</td>
</tr>
<tr>
<td>May</td>
<td>4.20</td>
<td>1.22</td>
<td>1.5</td>
</tr>
<tr>
<td>Jun</td>
<td>4.98</td>
<td>0.07</td>
<td>0.1</td>
</tr>
<tr>
<td>Jul</td>
<td>4.23</td>
<td>0.03</td>
<td>0.0</td>
</tr>
<tr>
<td>Aug</td>
<td>4.05</td>
<td>0.08</td>
<td>0.1</td>
</tr>
<tr>
<td>Sep</td>
<td>3.23</td>
<td>0.66</td>
<td>0.6</td>
</tr>
<tr>
<td>Oct</td>
<td>2.38</td>
<td>1.71</td>
<td>1.6</td>
</tr>
<tr>
<td>Nov</td>
<td>1.73</td>
<td>5.47</td>
<td>5.1</td>
</tr>
<tr>
<td>Dec</td>
<td>1.14</td>
<td>6.47</td>
<td>5.9</td>
</tr>
</tbody>
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### Chart 3: Time Series of Maize Planted Area & Yield

- **Short Rainy Season**
  - Area Planted (ha): 77,797
  - Quantity Harvested (tons): 98,592
  - Yield (kg/ha): 1,267

- **Long Rainy Season**
  - Area Planted (ha): 6,099
  - Quantity Harvested (tons): 7,583
  - Yield (kg/ha): 1,243

- **Total**
  - Area Planted (ha): 83,896
  - Quantity Harvested (tons): 106,175
  - Yield (kg/ha): 1266

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### Crop Yields

- **Maize**
  - Area Planted (ha): 77,797
  - Area Harvested (ha): 6,099
  - Yield (kg/ha): 1,267
  - Long Rainy Season: 1,243
  - Total: 1266

- **Paddy**
  - Area Planted (ha): 4,235
  - Area Harvested (ha): 620
  - Yield (kg/ha): 1,610
  - Long Rainy Season: 1,679
  - Total: 1619

- **Sorghum**
  - Area Planted (ha): 3,260
  - Area Harvested (ha): 1,144
  - Yield (kg/ha): 886
  - Long Rainy Season: 1,434
  - Total: 1029

- **Millet**
  - Area Planted (ha): 1,074
  - Area Harvested (ha): 762
  - Yield (kg/ha): 709
  - Long Rainy Season: 0
  - Total: 709

- **Bulrush**
  - Area Planted (ha): 53
  - Area Harvested (ha): 71
  - Yield (kg/ha): 1,340
  - Long Rainy Season: 0
  - Total: 1340

- **Total**
  - Area Planted (ha): 86,419
  - Area Harvested (ha): 109,135
  - Total: 94,282
  - Long Rainy Season: 119,398
  - Total: 219,680
Katumba

Rukwa region
Abandoned refugee camp
~ 80,317 Ha (could be substantially larger, up to 150,000 Ha)

Potential Production
- Corn
- Sorghum
- Soybeans
- Sugarcane
- Poultry

Opportunities
- Mpanda – 73,338 people
- Good maize growing region
- Exports to nearby countries
- Some poultry production, potential for more if quality transportation can be developed
Katumba

- **Infrastructure**
  - **Road**
    - Unpaved (Mpanda – Katumba: 30-45 minutes)
    - Network that runs throughout refugee camp
  - **Rail**
    - Central railway runs directly through the camp
    - Great access
  - **Buildings**
    - Some scattered throughout
    - Much development needed
  - **People**
    - March 2010 ~99,000
    - Scattered throughout
  - **Electricity**
Rukwa Region – Yield Information

- **Maize (2003)**
  - 42.88 bu/ha (17.65 bu/acre)
  - [USA national yield 150-160 bu/acre]
  - No fertilizer
- **Sorghum (2003)**
  - 52.87 bu/ha (22.03 bu/acre)
  - [USA national yield 80-90 bu/acre]

Modern seeds, fertilizer and techniques will vastly improve yields in Tanzania.
Mishamo

Rukwa region
Abandoned refugee camp
~ 220,000 Ha
- 80% of size of Rhode Island

Potential Production
- Corn
- Sorghum
- Soybeans
- Sugarcane
- Poultry
Mishamo

Infrastructure
- Road
  - Unpaved
  - Network that runs throughout refugee camp
- Rail
  - No rail access currently
- Buildings
  - Some scattered throughout
  - Would have to build all new
- People
  - Few
  - Scattered throughout
- Much brush/trees to clear

Opportunities
- Mpanda – 73,338 people
- Kigoma – 164,268 people
- Adjacent to “Highway” B8
- Good maize growing region
- Some poultry production, potential for more
- Few people – if any
End Markets

The impact of large scale crop production on country-wide/regional supply could be potentially significant on prices:

- Example: Corn stocks to use ratio for the most recent 3 years has averaged 4.2% (Tanzania)
  - Total harvested corn area
    - Tanzania: 3.1 million hectares
    - IA: 5.42 million hectares
    - US: 35 million hectares
  - Total corn production
    - Tanzania: 3.5 million tons (138 million bu)
    - IA: 60.96 million tons (2.4 billion bu)
    - US: 332.74 million tons (13.1 billion bu)
- The project will contemplate value-added end markets to consume crops supplied by Agrisol
End Markets

The crops produced by the Agrisol project will first be sold locally to increase regional food security and exported to neighboring African countries to the extent economics make sense. Excess production will be converted to value added projects for the local and nearby markets, including:

- Cattle production and processing
- Poultry production and processing
- Energy, biofuels
  - Gel packets for cooking and heating source
  - Sugarcane cogeneration
- Vegetable oils
- Cassava & Jatropha
  - Sell to local markets
  - Produces well in TZ climate and soils
  - Can grow on marginal ground
Other Considerations

Land clearing

- Lugufu: little to none needed
- Katumba: some needed
- Mishamo: much needed
- Will take time! (Brazil example)

“Social issues may not be as big of an issue as other Africa agricultural developments because of lack of population density near production sites.”
- Dr. Manu

Compelling opportunity to create employment and generate income in a nascent farming region.
Benefits to Tanzania

Regional agricultural powerhouse
Opportunities for local farmers
Sustainability
Food security
  - Protein: eggs, broilers, milk, protein bars (co-product of ethanol production)
  - Carbohydrate: white corn, cassava, soybean meal, beer
Multiple food and energy products
  - Food grade oil
  - Food grade germ protein
  - Food grade whey
  - Ethanol gel packs for cooking
  - Possibly ethanol and biodiesel for transportation
World class commercial farm
During a shortage or drought period, opportunity to buy commodities at production cost + risk adjusted rate of return
Pharos, Agrisol, Iowa State University and Summit Farms have been working with local farmers and consultants to develop a preliminary estimate of what the project could cost.

**Startup cost per hectare = $3,300**

The full Agrisol project could cost $200m in the first five years and up to $1 billion if built out to a fully integrated value added agriculture project with up to 200,000 hectares in production.
Tanzania Smallholder Outreach Program
Tanzania Outreach – Integration with Business

- Agrisol has partnered with Iowa State University to create an outreach program that will benefit the livelihoods of the local communities surrounding the Agrisol project farms.
- The critical differentiating aspect of Agrisol’s outreach program is that it will be integrated into a for-profit business to ensure that the program continues in perpetuity along with the business.
- ‘Outfarmer’ model – Tanzanian version
Effective programs are partnerships that focus on finding innovative solutions to local needs.

**Iowa State University**
- Structural expertise
- Student and faculty participants

**Sokoine University**
- Local challenges and needs
- Subject matter expertise
- Student and faculty volunteers

**Extension Program**
- Agricultural productivity
- Local resource management
- Sales & Marketing
- Basic health and nutrition

**Community Volunteers**
- Training and resources
- Local education and development

**Individual Rural People**

**NGO**
- Field Agents

Funded by USAID, Government, Private orgs. (Gates, Rockefeller, etc.)

Outreach Program Structure
Global Agriculture Fund
Outreach Program – Workshop Feedback

On February 28, 2011, Agrisol and Iowa State conducted a workshop with members of Tanzanian local and national government, universities, Agrisol’s local partner Serengeti Advisors and other interested parties. The Agrisol/ISU team described and received feedback on an innovated outreach program that included some of the following components:

- **Outgrower Scheme.** To connect nearby farmers into the Agrisol business model, the company will develop an outgrower scheme that would allow access to quality seed, fertilizer, credit, access to value added processing facilities, technical training. Crops could be purchased by Agrisol for processing and outgrowers can be stakeholders of the enterprise
- **Know How.** To aid in capacity development for limited resource subsistence farmers, Agrisol will develop small scale sustainable household demonstration farms of 1-5 hectares including a model home with appropriate technology innovations including water collection and storage, mosquito netting and pest control, improved grain storage, sanitation facilities, small livestock production, kitchen garden with fruits and vegetables plus a section of staple crops
- **Outgrower Financing.** To provide agricultural financing for farmers moving into small scale commercial production, Agrisol will partner with NGOs and banks to establish small and medium scale enterprise credit mechanisms. Examples include PRIDE, PASS
- **Information Networks.** To aid farmers in obtaining information on markets, prices, technology, weather and other topics to be competitive in an increasingly knowledge-based industry, Agrisol will expand use of ICTs and mobile phones as one medium for conveying time sensitive information to farmers
- **Value Added End Markets.** To increase the reliability of local markets for farmer output, Agrisol will invest in value added processing facilities, including potentially beef, poultry and pork farms and processing facilities, vegetable oil extraction, biofuels and grain milling
- **University Outreach.** To develop the preparation of skilled local technicians, agricultural management personnel would form a partnership between Sokoine University of Agriculture and Iowa State University for exchange of staff, students and know how
- **Sustainability/Environment.** To protect and improve the environment, Agrisol will put sensitive land (e.g. steeply sloping erodible land) into a Bio-Reserve and set aside land in managed forests for short and medium rotation plantings of trees and the benefits of carbon capture (sequestration)
- **Community Assistance.** To support sustainable rural livelihoods by assisting vulnerable members of surrounding communities (children, women, the food insecure, elderly, ill), Agrisol will facilitate the establishment of a Community Trust Fund that can be jointly administered by Community Leaders and Agrisol for high priority community needs including schools, clinics, water supplies, etc pursued in partnership with local authorities
Iowa State University (ISU) Outreach Experience

Selected Program Description

• ISU's CSRL tackles problems from the perspective of the poor
• Since '04, it has been active in Kamuli District of Uganda in partnership with VEDCO (a NGO) and Makerere University
• Uses a farmer-to-farmer approach by training local men and women who then provide volunteer extension services to members of their farmer group and beyond
• The focus is on food security, sanitation, nutrition, health, livestock breeding, micro-finance, market production and service learning
• In '09, CSRL conducted market chain analysis of 73 farmers; established groundnut, maize, poultry, pig and banana enterprises for income generation with 151 farmers, and; created market information boards in six parishes to inform of prices and markets
• In '09, the bi-national team of 15 undergraduate students, 2 graduate students and 4 faculty members established over 200 new vegetable gardens at two primary schools as outdoor learning labs and production areas
  ➢ They assisted teachers to present agriculture, science, health and nutrition information to children in grades 5-7

Lessons / Results

• Through 71 villagers trained by CSRL, the program benefits about 7,500 people (20% of the population)
• By mid '07, 77% of 800 households had achieved food security vs. 9% in '05
• As of '09, 55 farmers had accessed micro-finance loans (portfolio is $10,000) and the repayment rate on or ahead of schedule was 95%
### ISU Outreach Experience (Cont'd)

<table>
<thead>
<tr>
<th><strong>Global Seed Program</strong></th>
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<tr>
<td><strong>Selected Program Description</strong></td>
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<tr>
<td>• Supports seed entrepreneurship and increases yields and incomes for African farmers</td>
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<td>• In '07, ISU assisted the Southern African Development Community (SADC) develop harmonized regional seed policy in partnership with ICRISAT (a NGO)</td>
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<tr>
<td>• From 10/07 to 12/11, it is creating an enabling environment for seed policy by establishing the West Africa Seed Alliance (WASA) in partnership with AGRA of Gates foundation, USAID and ICRISAT</td>
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<tr>
<td>• Partnering with the University of Nairobi to develop a seed enterprise management institute in the College of Agriculture and Vet Sciences in Kabete, Kenya (funded by $4.49mm grant from AGRA)</td>
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<tr>
<th><strong>Lessons / Results</strong></th>
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<tr>
<td>• The regulations were approved by the Council of Ministers in 08/07 and has opened doors for seeds companies (especially small-scale) to invest in the region</td>
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<td>• Area mapping along with a database of 600 agrodealers in Mali and Ghana is complete</td>
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<td>• 15 demonstration plots in Mali and Ghana with improved corn, rice and sorghum are operational</td>
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<td>• A large foundation seed program has been initiated on 400 acres in Nigeria</td>
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Tanzania – Other Agribusiness Projects
Western Tanzania Beef Processing Plant

Pharos Ag is assessing the acquisition of one of the largest beef processing plants in the country of Tanzania

- Company processes, packages and delivers fresh and frozen beef and beef by-products to customers in Tanzania and is in the process of expanding to facilitate exports to neighboring countries in southern and eastern Africa as well as exports to UAE, Egypt, Kuwait, Oman and Qatar
- Plant has modern equipment, high safety and quality standards and a processing capacity of 200 head of cattle per day
- Company also owns 7,400 hectares upon which it grows crops, trees and grass and upon which it has a herd of cattle grazing for supply to abattoir
- Company sells high quality branded beef cuts – branded box beef and case ready beef – in frozen or chilled vacuum packed packages delivered in company owned refrigerated vehicles
- Sells direct or via wholesale distribution to retail customers in food services resorts, hotels, restaurants and supermarkets
- Plant processes Boran and Zebu breeds, inspected both before and after processing by government veterinarians to ensure they are free of disease and of high quality and hygiene
- Plant has innovative relationship with small local cattle outgrowers where the Company can enter into long term supply contracts and allows outgrowers small ownership stakes in the plant
- Goal is to source cattle from 1/3 local outgrowers, 1/3 from own ranch and 1/3 from nearby large scale professional ranchers
- Total value of plant and land is approximately $20 million
- Potential synergistic add on acquisitions exist with regional beef packing facilities to increase production and exports
Western Tanzania Rice Plantation

Pharos Ag is evaluating the acquisition of a large rice plantation in Western Tanzania

• Plantation grew from 500 hectares of planted area to 3,000
• Fell into disrepair due to lack of investment in working capital and modern machinery
• Agrisol team has been contacted by former plantation manager to invest in modernization of existing large scale plantation
• Pharos Ag currently performing additional diligence on project
Sudan Project
Sudan Farming Project

Pharos has been approached by the owners of a massive scale farming operations in central Sudan (northern Sudan). Location is in the water rich region near the White Nile river with access to irrigation due to a system of canals.

- New parcels broken into three farms totaling a cumulative 375,000 acres
- Existing land in production of 390,000 acres
- Up to 2mm total additional acres available
- Currently farmed in double crop rotation with Sunflower and Maize in the winter season and Sorghum and Peanuts in the summer
- Equivalent yields projected 75 bushels per acre
- All crop output to be consumed domestically in Sudan
- Investment in working capital and irrigation needed
- When operating at scale, plan is to produce over 1.5 million tons of sunflower, maize, sorghum, peanuts and other crops and by products
- Employs innovative smallholder system where main farming operation acquires all of the output from local farmers farming its land, sells the crop output and shares the profits with the farmers
- Pharos Ag currently performing additional diligence on project