No culture without agriculture: cross cultural engagement through agriculture in the High Atlas of Morocco

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MONTANA STATE UNIVERSITY
Spring break study abroad

Morocco
Agroecology & Environmental Science

Hands-on field experience in the rural region of Zawiya Ahans

3 CREDIT MSU COURSE
Spring Break Travel
Spring 2017: ENSC 491, 3 Credits

DATES ABROAD: March 10-24th
PROGRAM COST: $1,910.00
FACULTY LEADER: Dr. Tim Seipel

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Spring break study abroad

Morocco
Agroecology & Environmental Science

Program Fee

$1,910.00
- Program fee includes international health insurance, in-country transportation, food and bottled/treated drinking water, lodging, guides and translators
- Program fee does not include international airfare

Refer to the following Financial Aid Faculty Led Study Abroad Budget Sheets to assist in your financial planning:
- Financial Aid Budget MoroccoAgroecology2017.pdf

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APPLY BY JANUARY 20th!
Morocco

- North African kingdom
Rural commune of Zawiya Ahansal
Background

• Founded by Saint Sidi Ahansal in the 13th century

• One of the last strongholds of Morocco to fall to the French in 1933

• 10,000 people in province
Partner - Atlas Cultural Foundation

- Livingston based non-profit
- Cloe and Kris Erickson
Ighram restoration
I was interested in the vegetation
Shared vegetation similarity
The genus *Artemisia*

Potential noxious weeds
Questions about agriculture
Extension in Montana
Requires cross cultural communication

• Excellent opportunity for students to learn to communicate and problem solve
• Agriculture is necessary for every culture
• We can always talk about agriculture
Why did locals want to engage with us about agriculture?

• Women expressed concern about children’s diets
• Pest management
• Fruit tree health
• Managing weeds
First took students in 2014

- The interaction of agriculture, environment, ecology, and culture
- Sustainability
Students learn about the agricultural system

- Hands on
Plant and weed ecology
Agricultural System in Zawiya

• Fertile river terraces
  – Wheat, alfalfa, corn, barley, and root vegetables

• Dryland fields higher in valley
  – Barley - mainly animal feed

• Pastoral Agriculture
  – Donkeys, mules
  – Sheep, goats, and cattle
Crop and Vegetable Production

• Small Scale Production
  – Average plot size: $300m^2$

• Crops grown
  – Barley
  – Alfalfa
  – Corn
  – Root Vegetables
Agricultural Techniques

• Simple hand tools
• Flood irrigation
• Pesticides available
ACF tutoring: soils, climate, and plant biology
Most important:

• We reflect on our interactions with the community
• Understand the world from a different perspective
Sustainability
Perhaps the most significant realization at the beginning of the 21st century is the fact that the areas in the developing world, characterized by traditional/subsistence agriculture, remain poorly served by the top-down transfer-of-technology approach, due to its bias in favor of modern scientific knowledge and its neglect of local participation and traditional knowledge. For the most part, resource-poor farmers gained very little from the Green Revolution (Pearse, 1977).
Does sustainability have different meaning in Zawiya?

- People reliant on this system for:
  - Supplemental income
  - Well being - Both humans and livestock

- Resilience
  - More exposure to system disturbances

- Social
What is Sustainable?

• Low input of petrochemical fertilizers
  – *Manure*

• Termination of crops by grazers

• Integrated Permaculture
What is Unsustainable?

- Uniformed pesticide use
- Tillage of high elevation, erosion-prone slopes
- Severe overgrazing
- Flood Irrigation — Nutrient leaching
How does Zawiya secure a sustainable future?

- Community Education
  - Science based

- Agricultural system that is environmentally sound
  - Producing nutritious highly utilized vegetables
  - Improve irrigation infrastructure

- Economic Stability
  - Stable local prices
Failed Model of Community Development

- Jeffrey Sachs
  - Celebrated Economist

- Millennium Villages Project
  - Model villages in sub-Saharan Africa
  - Plan to end Poverty in Africa
Top-down Approach

• Too reliant on outsiders
  – Staff-driven

• Disregard of culture and values
  – Models are not reality

• High yield seeds and fertilizers
  – Incredible yields
    • Ugandans don't like corn - “prison food”
    • No storage or market

• Created a culture of dependency
  – “A hand out instead of a hand up”
Community Engagement

• Locals determine projects
  – Utilize local labor and economy

• Similar to the extension model in Montana
  – Farmers and producers come to agricultural experts with questions

“Care must be taken in all the reconstructive work to see that local initiative is relied upon to the fullest extent.”

-Hyde Bailey
A two way street

• The local community can benefit from our knowledge
We learn more from them
Agroecology in Action

• Agroecology can be put into action effectively only when networks of farmers, scientists, and other stakeholders learn together.
Join the adventure
Apply today
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