WILLINGNESS TO ACCEPT ASSESSMENT OF SMALL SCALE EUCALYPTUS FARMERS

Research Proposal by Maggie Stevens

Research in Conjunction with:

“To advance the science, management, and appreciation of natural resources in Tennessee, the region, and beyond through programs in research, teaching, and extension.”

Thanks to Dr. Hodges & Dr. Ostermeier

“Rotary is a voluntary worldwide organization which can fulfill humanity’s need for fellowship, service opportunities, and the need to leave a legacy.”

Thanks to Rotary of Oak Ridge & District 6780

Profile: Brazil

- HDI (Human Development Index): ranked 70th out of 175 countries
- 5th largest country by geographical area
- 5th most populous country
- 10th largest economy at market exchange rates
- Area: 8,514,877 km² (Continental U.S.)
- Most populous country in South America
- Population: around 190 million
- 9th largest in purchasing power

Profile: Territory of Brigadeiro State Park

Profile: Study Area

Brigadeiro State Park – 15,000 ha; created in 1996

Non Governmental Organization; Research Center; Working Farm

Small Scale Farms growing Eucalyptus in the 30,000+ ha that borders the Park

Background: Minas Gerais Crops

Shift to Eucalyptus farming

Data Source: Iracambi GIS 2006
Map: Maggie Stevens 2007

Eucalyptus

Non-native crop
Eucalyptus grandis & Eucalyptus citriodora
Deep root system
Managed for Fiber or Energy Industries

High Interception rate
Short rotations – 7 years

Managed for Fiber or Energy Industries

http://www.woodycrops.org/mechconf/mcnabb.html

Justification

Forrest Corridors
Ecosystem Services
Cultural Preservation

Background: Controversy

1) monoculture crop
2) soil fertility
3) water resources
4) diminished rainfall

Objective

Community support/Supporting the community
Willingness To Accept (WTA) assessment
A. 1 ha
B. 1 ha/1.7 ha of Eucalyptus
C. All

Conceptual Framework - WTA

Contingent Valuation
Maximize total return from land
Accept payment > their costs incurred by:
• Harvesting early
• Relinquishing right to replant
  ○ Forgone profits from future crops
Influenced by:
• Perceived market forces – future yield

Methods - Collection

Sampling frame – 20 mile radius of park boundary
2010 dry season
Sampling size – 50 heads of the household
Survey questions
Triple-bounded approach
Ecosystem services/forest corridors

Methods – Barriers to Statistical Significance

- Slow Travel
- Bugs
- Unreachable Farmers

Methods - Analysis

- Standard multivariate techniques
- Regression Methods
- Independent Variables:
  - Average historic profit
  - Median farm size
  - Median household size

Future Implications

- Valuable measure of cost for forest preservation
- Useful tool for policy makers
- Other WTA assessments - Watershed
Future Implications

Resource for Iracambi's conservation programs:
- Forest Corridors
- Income Alternatives
- Land Use Planning

Bonus Feature: Questions

http://www.youtube.com/watch?v=bDDfap9KRM0