

# Transboundary Water Management for Economic Development in Nicaragua and Honduras



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# Location of Study: Mountainous Border Region of Honduras and Nicaragua



## **Nicaragua Municipios**

- Somoto
- San Lucas
- Las Sabanas
- San Jose de Cusmapa

## **Honduras Municipio**

- Choluteca

# Details of Study



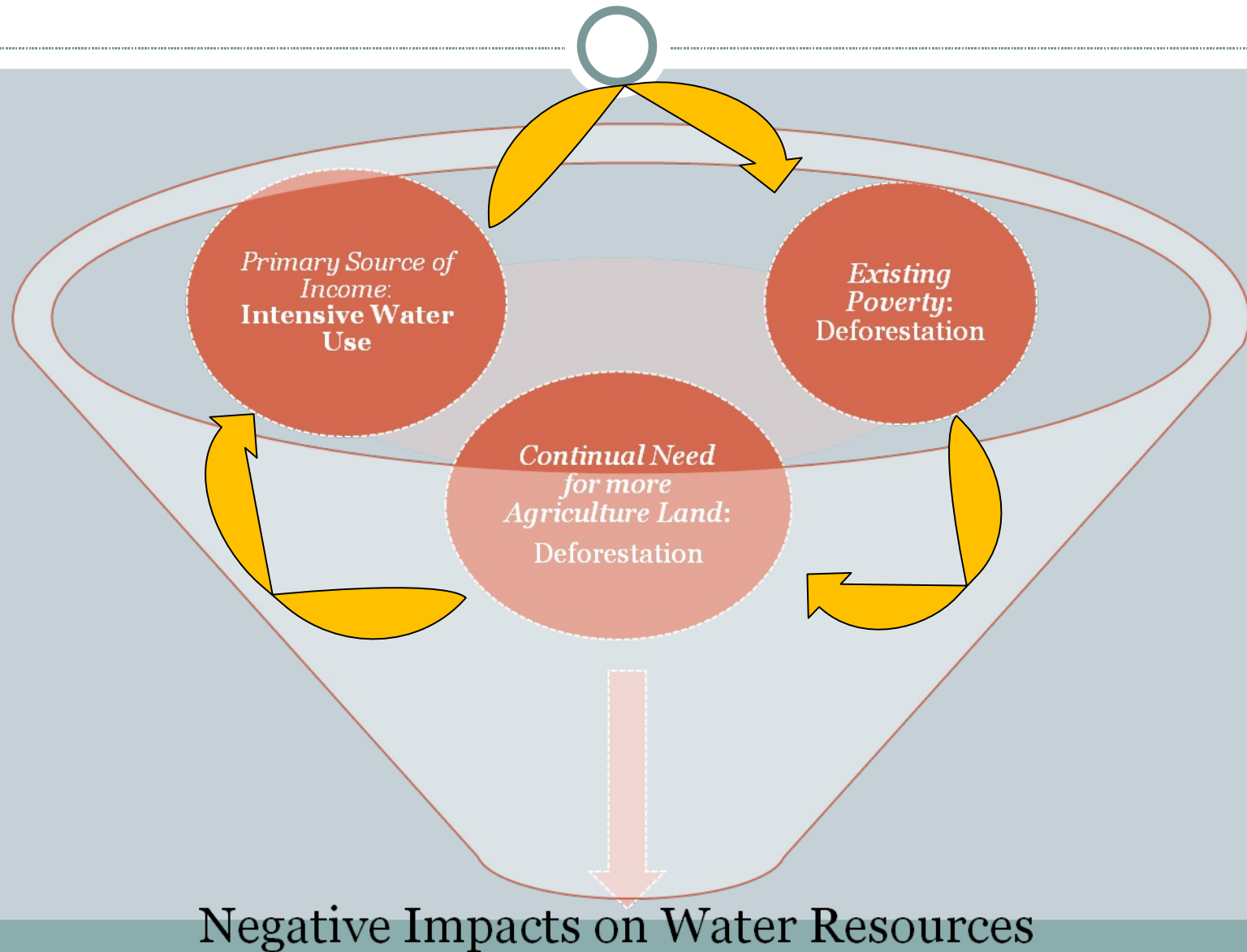
- Conducted November 2007 to present
  - ✦ January, May, June, July, August 2008 *in situ*
- Physical-Chemical Water Data Collection
  - ✦ Methodology: Innovative “Snapshot Approach”
- Land-Use Analysis
  - ✦ Remote Sensing and Ground-truthing
- Socio-Economic and Policy Analysis
  - ✦ Stakeholder Interviews and Observations

# PROBLEM



- Insufficient QUANTITIES of good QUALITY water negatively affect populations on both sides of the border
- Groundwater
- Two Transboundary Rivers

# Vicious Circle and Fatal Funnel



# Transboundary Protected Area

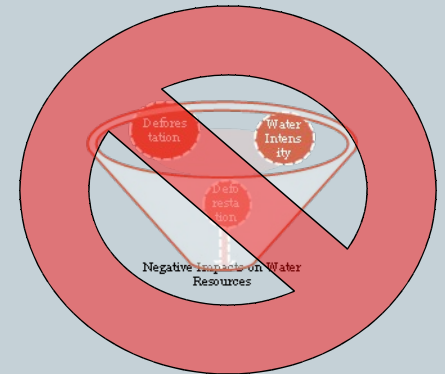


- Address Poverty and Water Problems Simultaneously:

- Ecotourism
- Non-Timber Forest Products
- Artisan Crafts
- Organic Agricultural Cooperatives

- This Could Affect Water by:

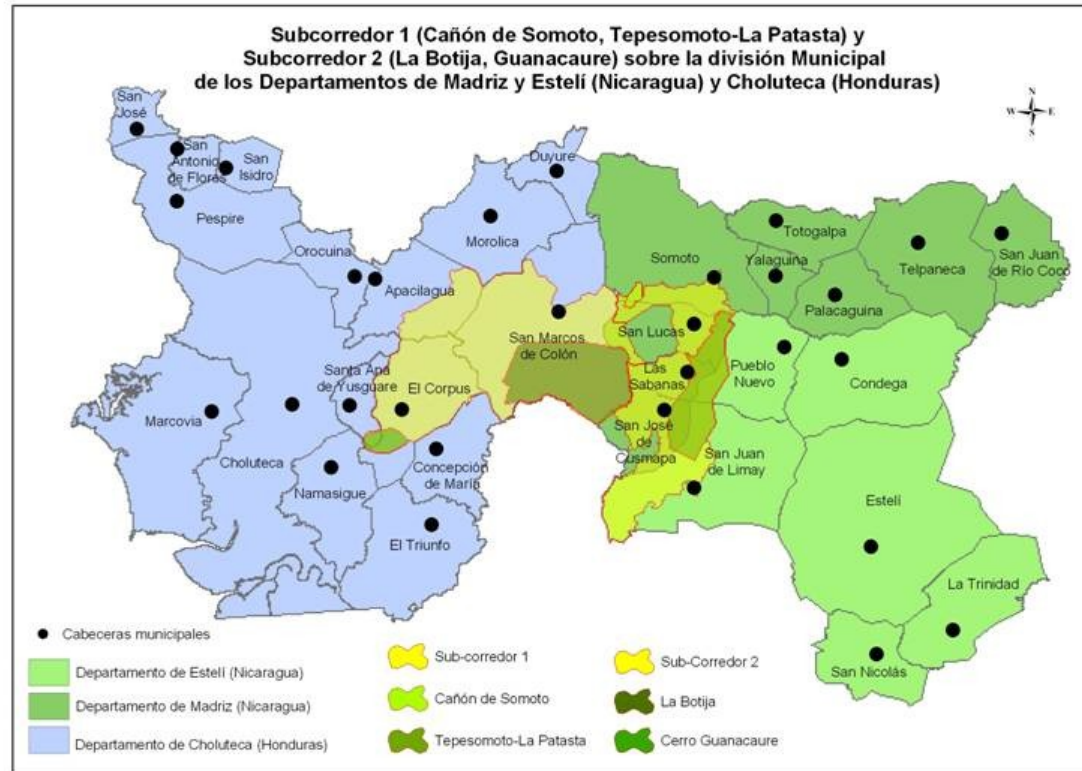
- ↓ Dependence upon Water for Primary Income
- ↓ Need for more Agriculture Land
- ↑ Overall Family Income



# Basics of Transboundary Protected Area

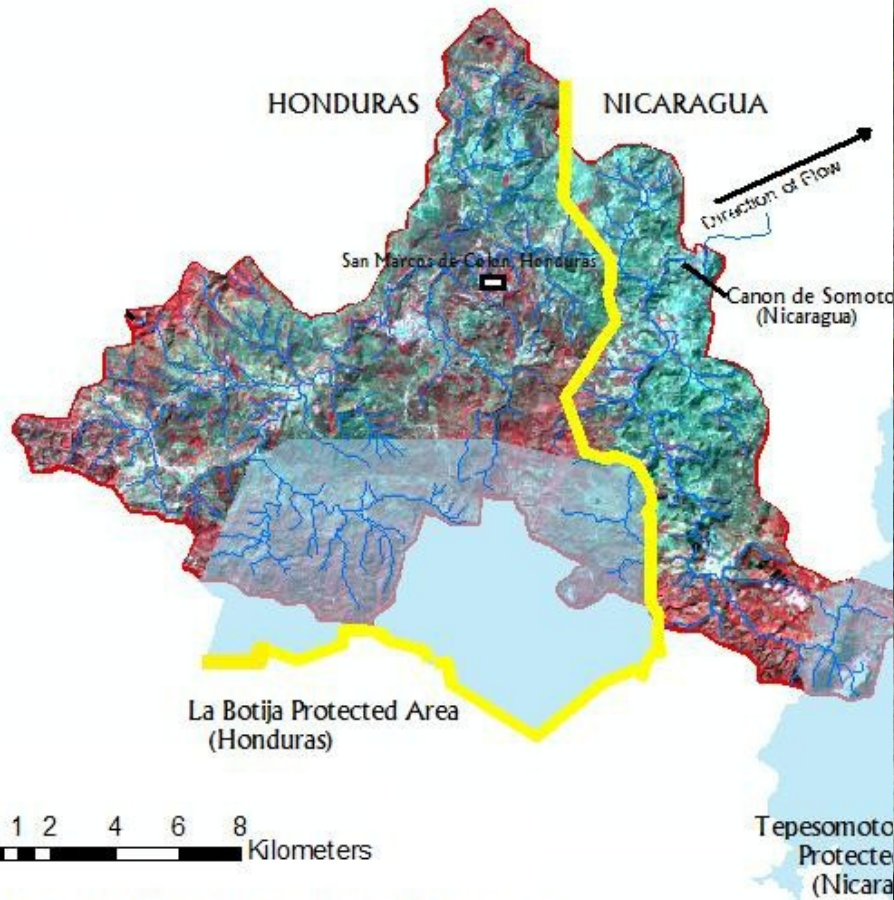


- Connect Four Existing Protected Areas
- Multiple Zoning Areas/Corridors
- Two Major International River Basins
  - Rio Negro
    - ✦ Tri-national Gulf of Fonseca (Pacific)
    - ✦ International Transboundary Attention
  - Rio Coco
    - ✦ Caribbean
    - ✦ Local Transboundary Attention

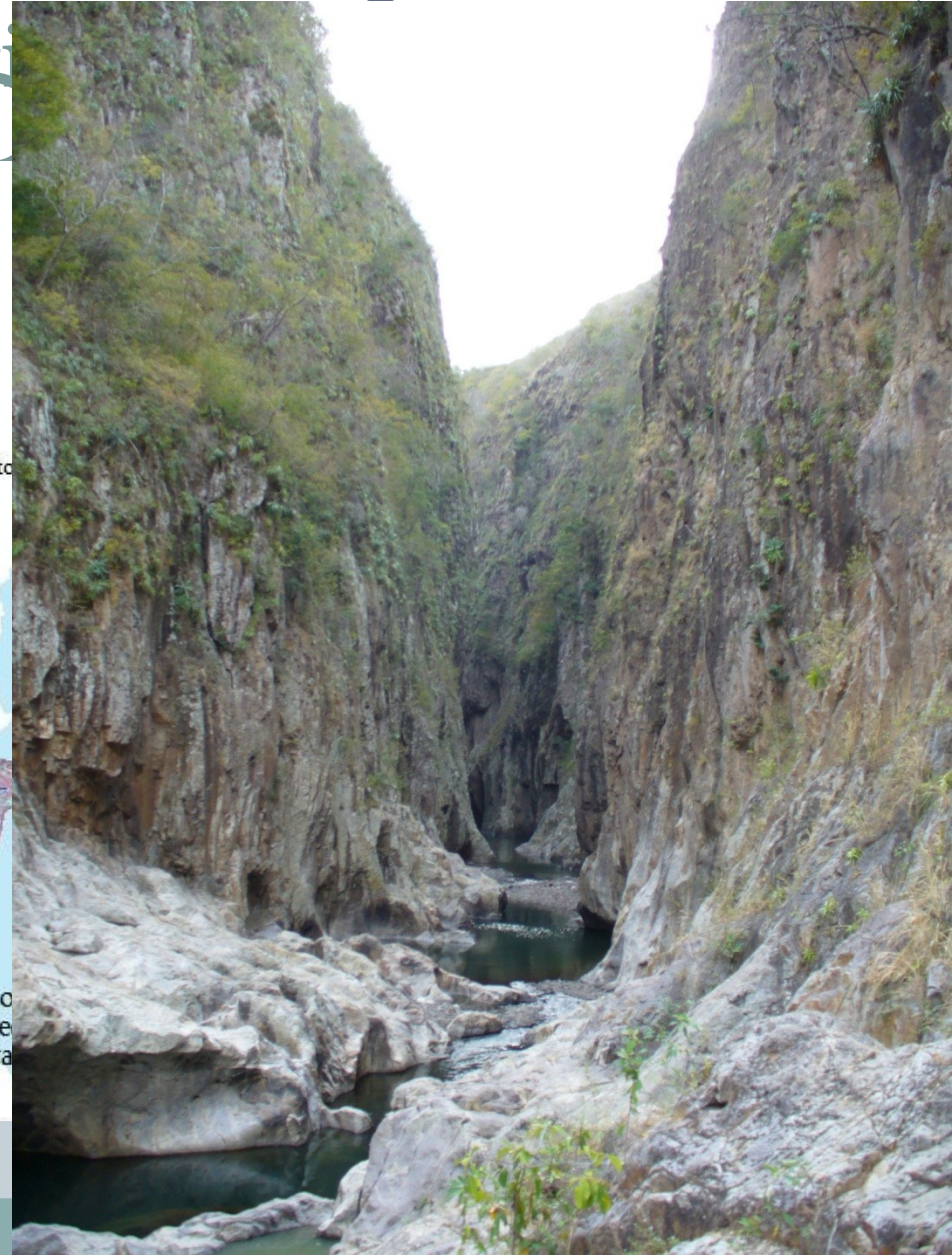


# Río Coco (Wans-Coco-Segovia):

Favor



Map showing Río Coco Watershed and Protected Areas





# Direct Threats to the Río Coco from Honduras



- Lack of Wastewater Treatment
- Potential Dam (and previous dams)
- Intensive Agriculture

# Wastewater



# Why not Transboundary Management for only the Rio Coco?



- Forest Management in Nicaragua Affects Forest Management in Honduras in the Rio Negro Basin
- Rio Negro Basin Important Economically for Honduras

# Important Point



- Transboundary Water Management Regimes may require multiple watersheds to be agreed upon and implemented successfully
- Rio Coco: Nicaragua major benefactor
- Rio Negro: Honduras major benefactor

# Challenges to Transboundary Protected Area Management



- **Regulatory Asymmetry**
  - Land/Forest Management
  - Protected Areas
- **Lack of Enforcement**
- **~85% Privately-Owned Land**
- **Potential Resistance to Change**

# Current Efforts



- IUCN Resolution #60
  - 13 October 2008
- Bi-national Stakeholder Meetings
  - Ongoing
- Developing Sustainable Monitoring
  - ???

# Conclusions



- Transboundary Management Must Provide Some Benefits for all Parties
- Local Stakeholders Must Take the Initiative
- Asymmetric Management Regimes Must be Addressed
- Sustainability of Project Must be Ensured

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# Thank You

