No shortage of human resources
Raising awareness and Setting (Evolving) Targets

TOWARD SUSTAINABILITY
A Plan for Collaborative Research on Agriculture and Natural Resource Management
Panel for Collaborative Research Support for AIDY'S Sustainable Agriculture and Natural Resource Management Program
Board on Agriculture
Board on Science and Technology for International Development
National Research Council
NATIONAL ACADEMY PRESS
Washington, D.C. 1991

Earth Summit
1992

World Food Summit
1996

Millennium Development Goals (target 2015)
2000

UN CSD Review
2002

World Summit on Sustainable Development (Rio+10)
2008

MDG Summit
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UN CSD Review
2012

Green Economy Governance
2014

Sustainable Development Goals

Raising awareness and Setting (Evolving) Targets

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Raising awareness and Setting (Evolving) Targets
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<td>Burkina Faso</td>
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<td><strong>Bolivia</strong>, Haiti</td>
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Phase I and II
The Cornerstones

Participatory Research  
Landscape Approach

Inter-institutional Partnerships  
Interdisciplinary Research

1992-1997
Farmer-Back-to-Farmer Model

1. Farmer-scientist diagnosis of problem
2. Seeking solutions through interdisciplinary research
3. Testing solutions through on-farm research
4. Adapting solutions to local conditions

Farmer knowledge
Problem jointly defined
Potential solutions identified
Adapt solutions to local conditions
Solutions evaluated & adopted by farmers
Landscape visioning plates

1966

1990

2014
“We were Landscapes when Landscapes weren’t cool”
Figure 3. Advocacy Coalitions-Water

- **Civil Society**
- **State**
- **Market**

- **Internat’l**
  - FAO
  - German Agro Action

- **Nat’l**
  - Ministry of Ag
  - Peasant Forest Development
  - CESA (NGO)

- **Prov./Reg.**
  - Electric Co. of the North
  - CORSI-NOR
  - Integrated Rural Dev. of Cotacachi

- **Canton**
  - UNOR-CAC
  - Water Boards (Drinking Water)
  - Water Boards (Irrigation)

- **Comm.**
  - Muni-
    - Integrated Rural Dev. of Cotacachi
  - Municipal-
    - Prov. Water Agency
  - Prov.
    - Nat’l Water Resources Council
  - Chambers of Agriculture
  - Agricultural Center of Cotacachi
  - La Marquesa Water Board
  - Hacendado
  - Peasants
SANREM CRSP/PHILS
ECONOMIC GROWTH & SUSTAINABLE DEVELOPMENT ARE THEY COMPATIBLE?

STRATEGIC PLANNING MEETING
MAY 18-20, 1998
PINE HILLS HOTEL, CITY OF MALABALAY
Ritual of Understanding: Tala-andig Indigenous People, Lantapan, Bukidnon, Philippines
Phase III and IV
Figure 2. Holling’s adaptive renewal cycle (from Holling and Gunderson 2002).
Knowledge Production

US and Host Country Researchers, Policy makers, CSO Leaders, Community members, Farmers

SANREM CRSP Knowledge Management System

SANREM CRSP Knowledge Base

Web-based Information, listservs, and E-publications

USAID/EGAT/NRM/LRM and USAID Country Missions

Conferences, papers, books, articles, and reports

Management Entity

SANREM CRSP Knowledge Base

INFOMINE, RDN, AgNIC, AgBiotech, InfoNet, etc.

USDA SA & NRM Knowledge Development

Planning and Long Term Research PIs

Landscape System Coordinators

SANREM Bridging Program PIs

IARC and Bilateral Projects and Programs

Knowledge Production

US and Host Country Researchers, Policy makers, CSO Leaders, Community members, Farmers

SANREM CRSP Knowledge Management System
Transdisciplinary Framework (LTRA-3)

Hypotheses of relationships within and between models:
Transdisciplinary Framework (LTRA-4)
(with suggested direction for research hypotheses)

**Structure**
- Climate
- Market
  - drivers
  - Shocks & stresses
  - Adaptations
  - Negotiations

**Governance**
- Landscape/Ecosystem
  - Community/watershed
    - Livelihood System
      - Production System

**Agency**
- Knowledge Networks and Coalitions
  - Social Capital
  - Human Capital
  - Cultural Capital
  - Natural Capital
  - Constructed Capital
  - Political Capital
  - Financial Capital

**Hypotheses on the current state and its drivers**
- Pests
- Soils
- Biodiversity

**Transformative Hypotheses**
- Bridging knowledge systems for change
- Building coalitions to implement change
- Risk and dread and ability to act

Secondary research is used to fill in the gaps in primary research as needed for each site.
Network that developed Conservation Agriculture (Brazil)
Network that developed Conservation Agriculture (Ghana)