Livelihoods and Climate Change

Combining disaster risk reduction, natural resources management and climate change adaptation to reduce vulnerability
Structure of Presentation

- Project background
- Project summary
- Description of Phase One activities
  - Objectives
  - Lessons
- Results of Phase One
- Plans for Phase Two
Background: Project Rationale

- Rising toll of disasters
  - Economic losses
  - Costs of humanitarian relief
  - Development efforts hindered

- IPCC: TAR
  - CC → more frequent and/or intense extreme events
  - Focus on impacts, vulnerability, adaptation

- Link between disaster risk & environmental degradation
  - Reduced buffering capacities
  - Dwindling NR base for sustaining livelihoods

- UNFCCC COP 7
Background: Rationale (cont’d)

- NRM / ecosystem management & restoration (EM&R) activities can reduce vulnerability to climate-related disasters

- How can these be supported and built upon for climate change adaptation?
Background (cont’d):
The IUCN-IISD-SEI-IC Task Force

- Bring together 4 communities long working on vulnerability reduction:
  - Disaster risk reduction
  - Climate and climate change
  - Natural resource management
  - Poverty reduction

- Main conclusions / basis for proceeding:
  - Starting point of adaptation: reducing current vulnerabilities
  - Need for bottom-up, local level adaptation;
  - Vulnerability reduction must be based on livelihoods;
  - Livelihoods of the poor are heavily dependent on environmental resources → adaptation must integrate NRM / EM&R activities
Project Goal & Objectives

Goal:
To strengthen the role of ecosystem management and restoration (EM&R) activities in reducing the vulnerability of communities to climate-related hazards and climate change.

Objectives:
- Identify successful EM&R actions that reduce the vulnerability of communities to climate-related disasters and climate change;
- Enhance the use of these activities by identifying barriers to action, conditions for success and policy options;
- Mobilize and expand constituencies and operational capacities for adopting and implementing this approach; and
- Promote the integration of this approach into emerging policy frameworks and strategies on disaster reduction, climate change action, biodiversity conservation and poverty alleviation.
Project Summary

Partners: IUCN, IISD, SEI-B, InterCooperation

Type: Research, policy

Duration: 2001 – 2005 (with possibility for extending)

Structure: Project Team members from each partner institution
Secretariat based in IISD’s European Office in Geneva
Guided by a multidisciplinary Task Force of experts
Phase One: research & communications
Phase Two: operationalization of adaptation

Timeline & Budget:
Phase One: 2001–2003; SFR 200,000 from SDC
Phase Two: 2003 – 2005; SFR 400,000 from SDC
# Phase One (2001 – 2003)

<table>
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<tr>
<th>Phase One Objective</th>
<th>Corresponding Activity</th>
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| 1. Establish project’s approach to CC adaptation | - Background paper  
- Task Force meetings  
- Conceptual framework paper |
| 2. Collect supporting information for this approach | - In-depth case studies (Sudan, Bolivia)  
- Desk-based assessments  
- Ongoing research into partner project portfolios |
| 3. Communicate the value of the approach to broader constituencies | - Project brochure  
- Project website  
- Participation in international meetings  
- Information papers  
- COP 9 Synthesis Report |
1. Establish approach to adaptation

- Background paper
- Task Force meeting
- Conceptual Framework:
  - Common platform for developing an adaptation approach based on vulnerability reduction and livelihoods
  - Situate project within current CC adaptation debates and activities
Conceptual Framework

- The case for adaptation
- Summary of concepts and definitions
- Overview of the CC adaptation ‘regime’
- Livelihoods and their links to CC
- Issues and challenges to CC adaptation
- Strategic framework for CC adaptation
## 2. Collect supporting evidence

<table>
<thead>
<tr>
<th>In-depth studies</th>
<th>Desk-based assessments</th>
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<tr>
<td>■ Document changes to community vulnerability / resilience before and after a SL / EM&amp;R intervention</td>
<td>■ Glean lessons-learned from SL / EM&amp;R interventions that reduced local vulnerability to climate impacts</td>
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<tr>
<td>■ Empirical research and field visits</td>
<td>■ Document review and correspondence</td>
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<td>■ Sudan, Bolivia</td>
<td>■ C. America, Vietnam, India, Kenya, and Iran</td>
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NRM / EM&R that successfully reduced vulnerability were usually part of a broader, ‘sustainable livelihoods’ (SL) intervention;

NRM / EM&R activities are an important part of the SL approach, but are supported by other activities that address financial, human dev’t, & socio-political needs;

Similarities between SL framework and TF’s approach to CC adaptation:
- Bottom-up, people-centered
- Reducing current vulnerability to shocks and trends
- Build on existing strengths and experiences
- Allows for the recognition that for the poor and most vulnerable, natural assets are particularly important
In-depth study: Sudan (SEI-B)

- Measure community resilience before & after implementation of UNDP GEF pilot project;
- Local conditions: limited rainfall, degraded soil, vulnerability to drought, falling livestock and crop production;
- Pilot project: 17 villages implemented SL activities:
  - Awareness + institution building
  - Training
  - Rangeland rehabilitation
  - Community development
In-depth study: Sudan (cont’d)

- Result of pilot project:
  - Enabled community institutional structure
  - Rehabilitated rangelands
  - Community development

- Increased resilience to future droughts → how and why??

- Indicators to compare pre-project and post-project resilience, based on livelihood assets;

- Enabling conditions → drivers to success identified
In-depth study: Khuluyo, Bolivia (IC)

- Resilience-building impacts of PROFOR (*Programma de Repoblamiento Forestal*)

- Local conditions: decrease in precipitation levels but more frequent storms; extended dry periods; water scarcity; dwindling NR base; landslides;

- CB FLR Project:
  - Forestry / agro-forestry training
  - Establishment of tree plantations
  - Provision of inputs for plantations
  - Technical assistance
  - Community organization → forest committee
In-depth study: Khuluyo, Bolivia (IC)

- Result of PROFOR:
  - Establishment & Mgmt of plantations and forests
  - Increased property value
  - Household resources and supplemental income
  - Stabilization of hillsides
  - Community organization
  - Improved watersheds

- Increased resilience to extended dry periods and heavy rainfall events
Desk-based assessments

- C. America (PASOLAC): Forest landscape restoration
- India (WOTR): Community watershed restoration
- Iran (Min. Agriculture): Aquifer management
- Kenya (Turkana pastoralists): Woodlands restoration
- Vietnam (Red Cross): Mangrove reforestation
PASOLAC

- Nicaragua, Honduras & El Salvador
  - 60-80% of continental territories covered by hillsides
  - Deforestation → deteriorating watersheds
  - Water shortages during dry season, floods during extreme rainfall events becoming more common
  - Vulnerable due to dependence on local production, resource degradation, and limited skills

- Program
  - Sustainable soil and water management techniques
  - Payment for environmental services: cash or in-kind for maintenance and management of natural resources
  - Creation of markets for agricultural products
  - Legal & institutional frameworks to ensure active involvement of local farmers
PASOLAC (results)

- Reduced water shortages
  - Water retention↑ by 3% -- 60,000 litres of water per hectare or 6mm of rainfall

- Increased drought resistance
  - 2001 drought -- stubble and weed management

- Restored water supplies
  - Construction of dams in streambeds -- water flowing again

- Increased resistance to heavy rainfall
  - SSWM vs traditionally managed plots after heavy rainfall / Mitch
  - Thicker fertile soil layer, less erosion, more water availability, fewer landslides
Mangroves in Vietnam

- Tropical cyclones already cause considerable damage – worse with climate change
- Red Cross – work with communities to plant and protect 12,000 ha of mangrove forests in N. Vietnam

Results:
- Cost US$ 1.1 million, saved US $ 7.3 million/year in dyke maintenance
- Typhoon Wukong in 2000 – project areas unharmed
- Additional income and more protein in diets (crabs, mollusks, etc.)
- Almost 8,000 families benefited from increased protection and diversified livelihoods
Lessons for Adaptation

- SL / NRM builds community resilience to climate impacts
- Adaptation is already happening

- Elements of successful vulnerability-reducing projects:
  - Thorough understanding of local livelihoods and vulnerabilities
  - Strong understanding of climate - livelihood interactions
  - Community-driven implementation
  - Community organization
  - Strong participation of women
  - Local training and capacity development
  - Blending of traditional and modern approaches
  - Reconciling short-term needs with long-term goals
  - Supportive institutional and policy environment
3. Communicate to broader audience

- Outreach & communications strategy
- Website, brochure, participation in relevant meetings
- ‘Information Papers’
  - Highlight success stories
  - Organized by vulnerability focus
Results from Phase One:

- Establishment of institutional platform for bringing together different fields;
- Development of theoretical basis for promoting SL / EM&R activities as adaptation measures;
- Growing portfolio of SL / EM&R projects that reduce community vulnerability to climate impacts;
- Lessons-learned on how to support the implementation of such projects;
- Network of institutions interested and / or involved with SL / EM&R approaches to CC adaptation; and
- Identification of needs for ‘operationalizing’ a SL / EM&R approach to CC adaptation
What next? Operationalization

- Phase One → an increased understanding of how SL / EM&R interventions reduce vulnerability / build resilience of communities

- Basis for operationalizing the Task Force’s approach to CC adaptation
‘Operationalizing’ will involve…

- Helping governments, donors and other institutions to identify high-impact adaptation projects;

- Providing a set of ‘tools’ to strengthen or build-upon such projects, maximizing adaptation potential

- Enabling communities and project managers to monitor and evaluate an intervention’s impact on adaptive capacity;

- Working with decision-makers to develop a framework for ‘scaling-up’ such interventions and integrating them into emerging policy frameworks and processes
Phase Two (2004 – 2005)

Facilitating the implementation of adaptation activities that use community-based EM&R / SL approaches

- Task Force meetings

- Toolkit development
  - ‘Adaptation screen’
  - Adaptive capacity monitoring and evaluation criteria

- Test & pilot implementation project
  - Regional workshop to fine-tune toolkit
  - Use toolkit to develop adaptation projects that use EM&R / SL
  - Assist country teams in integrating such activities into emerging programmes and policies

- Continued outreach and communications activities