Evaluating Integrated Conservation & Development at Bwindi Impenetrable National Park, Uganda

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Conservation Policy

Priorities for managing protected areas are changing

Protection → Conflict Resolution → Community-Based

Recently.... poverty alleviation
Conservation Through Poverty Alleviation

CBD 2011-2020 Strategic Plan:
• Set an agenda for biodiversity conservation to contribute towards poverty alleviation
• CBD signatories can deliver this objective through protected areas

10th Conference of Parties:
• Supports initiatives on the role of protected areas in poverty alleviation
Conservation & Governance

- Linking conservation with poverty alleviation requires more than effective protected area management or local rural development activities.

- It requires an approach that is founded on the principles of good governance.
Governance of natural resources

‘the interactions among structures, processes & traditions that determine how power & responsibilities are exercised, how decisions are taken & how stakeholders have their say in the management of natural resources including biodiversity conservation’

IUCN
Core Principles of Good Governance

- Effective participation of informed local communities
- Negotiated agreements on natural resource use
- Fair compensation of conservation costs
- Equitable benefit sharing that addresses the needs of the poor & marginalised
Policy to practice

• What tools are available for practitioners to achieve conservation through poverty alleviation & good governance?

• Integrated Conservation & Development (ICD): conservation is achieved by addressing local development priorities
Many interventions lie under the ICD umbrella

- Alternative livelihoods
- Buffer zones of sanctioned harvesting
- Revenue sharing
- Community common good projects e.g. schools, health clinics
- Resource substitution
- Direct conservation payments
<table>
<thead>
<tr>
<th>ICD evaluations</th>
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<tr>
<td>Shown to improve local attitudes towards conservation</td>
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<td>Doubts on ICD effectiveness in reducing conservation threats by changing resource use behaviours</td>
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<td>Effectiveness in alleviating poverty?</td>
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<td>Many evaluations on ‘impact’ but rarely on good governance (e.g. did community members attend meetings or were effectively engaged in the decision-making process?); this limits our understanding of the successes &amp; failures of ICD</td>
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ICD

• In practice within many countries

• We must address these questions on ICD effectiveness to secure conservation & poverty alleviation goals through effective & proper governance
Bwindi Impenetrable Forest, Uganda

- Western edge borders Congo; near Rwanda
- Formerly part of the Virungas
Bwindi Impenetrable Forest

• 317km$^2$ forest covering rugged, mountainous terrain
• Part of the Albertine Rift with high numbers of endemic & rare species
• Home to half of the world’s endangered population of Mountain gorillas
News just in!

• Mountain gorilla census every 5 years
• ‘clean sweep’ for fresh nests & dung
• 2006: 300 gorillas
• **2011: 400 gorillas**
• 2011 most accurate to date - a double sweep with genetic analysis
• Partly an increase in gorilla numbers but partly because better census techniques
Bwindi’s story
Before national park status

<table>
<thead>
<tr>
<th>Bakiga</th>
<th>Batwa</th>
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<tr>
<td>• Primarily subsistence farmers</td>
<td>• Hunter / gatherers of the forest</td>
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<td>• Multiple income strategies:</td>
<td>• Some traded their labour for food / goods with the Bakiga</td>
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<td>• Casual work; labourers</td>
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<td>• Selling surplus farm produce &amp;/or forest products locally (timber, bushmeat)</td>
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Bwindi lies within one of the poorest, most densely populated regions of East Africa
Before national park status

**Employment:** mining, timber, goods smuggling

**Income:** access to markets; selling forest products locally

**Food:** bushmeat, wild honey, vegetables

**Livelihood emergencies:** medicine

**Subsistence products:** bean stakes, building poles

**Sacred sites** (esp Batwa)

**Cultural activities:** beekeeping; hunting
Gorilla concerns

- Forest clearance from timber & mining trades
- Snares set for bushmeat
- Direct poaching of gorillas rare
- Human population increasing: forest clearance
Bwindi became a National Park

• 1986 intensive law enforcement began
• Targeted timber and mining sites
• 1991 national park status
• Local forest access prohibited & Batwa evicted
• Violent conflict between local communities & national park staff arose
• ICD approach adopted
Bwindi’s ICD

Multiple use programme to allow specialist resource users inside forest boundary zones to harvest certain resources

• Resource users selected based on least impact to forest & gorillas
• Beekeepers pilot test soon after gazettlement
• Medicinal herbalists & basket makers 1994/1995
The ICD Model at Bwindi

Linking Strategies
- MUP
- Revenue Sharing

Delinking Strategies
- Alternative livelihoods
- Agricultural support
- Resource substitution
- Batwa support

Linking:
Delinking:
(Blomley et al 2010)
Bwindi’s ICD

• CARE-DTC
  – On-farm substitution
  – Agricultural development

• Trust Fund
  – World bank investment
  – Annual interest supports community projects including Batwa & livelihood projects

• Revenue sharing
  – % of tourist park entrance fee $20 to community projects (not gorilla permit fee)
Success at Bwindi?

• Reduction in violent conflict & deliberately set forest fires
• Reduction in unauthorised resource use
• More positive local attitudes towards the park
• Better relations between local communities & park authorities
Success at Bwindi?

• Bwindi’s ICD was important in improving local attitudes towards the park
• Law enforcement cited as the primary reason for reduced unauthorised resource use
• ICD tended to benefit the wealthier community members
• Failed to link conservation with poverty alleviation
• Governance?
Success at Bwindi?

• Let’s go back to the beginning....
• The violent conflict that led to adoption of ICD is well documented
• Based on the assumption that subsistence needs were the primary driver (hence MUP)
• Yet no quantitative assessment of the causes, individuals instigating conflict or links to threats to gorilla conservation
• Yet this understanding is critical for ICD targeting
Violent Conflict Study Aims

• Test the utility of conflict analysis in protected area conservation

• Examine
  – temporal & geographical patterns of conflict
  – events that triggered a conflict incident
  – individuals instigating conflict

• Assess
  – Motivations of the instigators
  – Links between conflict & gorilla threats
Violent Conflict Approach

- Historical analysis
- Verified the records
- Extracted data on 48 incidences of violent conflict
- Conflict incident defined as ‘people’s actions that affected the ability of park authorities to manage the national park’
Violent Conflict Types

• Developed typologies from descriptive notes:

• Gazettement period
  – Before 1986-1988
  – During 1989-1992
  – After 1993-2000
Violent Conflict Types - Area

- Rangers recorded the name of the forest or community area of the conflict
- Mapped local names by GPS & focus group discussions
- Assigned each name (over 300) to gorilla census sectors
- Developed five common patrol areas: east, south, west, centre north
Violent Conflict Types - Area

• map
Violent Conflict Types - Instigator

- Villagers
- Offenders
  - arrested for unauthorised resource use within Bwindi
  - categorised by type of unauthorised resource use: commercial (mining, pit sawing, good smuggling) or subsistence (minor forest product collection, bushmeat hunting)
- Local chiefs
- Soldiers
- Forestry Department Staff
Violent Conflict Types - Conflict

- Verbal harassment of rangers
- Physical attack on rangers to forcibly free apprehended offenders
- Physical attack on rangers to escape arrest
- Physical attack on rangers or their families
- Physical attack on park authorities
- Deliberate fire setting within Bwindi
- Verbal threats towards gorillas expressed to rangers
Violent Conflict Analysis

• Correlational analyses to examine trends in the data

• Log linear analysis:
  – Constructed a 4-way contingency table with factors of period, area, instigator & type
  – Probability of conflict occurrence was the dependent variable
  – Poisson distribution using the backward hierarchical approach specifying a log linear function
Violent Conflict Findings

• Most conflict (45.8%) was recorded during gazettement

• GRPAH
Violent Conflict Findings

• Most incidents were villagers attacking rangers to free offenders from arrest

• Villagers mainly attacked rangers to free commercial offenders from arrest (83.4%) but also subsistence offenders (16.6%)

• Local chiefs & soldiers also attacked rangers to free offenders from arrest but only commercial offenders (no record of their involvement in freeing subsistence offenders)
Violent Conflict

1986

A group of village men surrounded the rangers, forcibly released the miners and then ordered the rangers back to their headquarters.
Violent Conflict

1988

The Game Warden wrote to the District Officer about village chiefs who were encouraging their villagers to break rangers’ rifles when rangers arrested their villagers for mining within Bwind
Violent Conflict at Bwindi

• Arrest of commercial offenders was the primary trigger of conflict before, during & after gazettement & after ICD

• Most attacks occurred immediately following an arrest = conflict instigated as an immediate response to law enforcement rather than as a planned event (e.g. deliberately set forest fires)
Violent Conflict at Bwindi

- Arrest of commercial offenders was the primary trigger of conflict before, during & after gazettlement & after ICD

- **Trigger of conflict:** rangers arrest villagers undertaking (as labourers for town traders) mining, pit sawing or transporting goods through Bwindi

- **Motivation:** protecting their jobs & main income: livelihood security

- **Instigator:** primarily villagers but also those gaining from the trades (local chiefs & soldiers)
Violent Conflict & Law Enforcement

• The relationship between conflict & law enforcement is important
Law Enforcement

- Most offenders arrested before (70.5%) & during gazettement (81.8%) were villagers undertaking commercial activities - employed as labourers in the mining & timber trades or good smuggling.

- In contrast after gazettment & ICD, subsistence offenders were more commonly arrested (minor forest product collectors not bushmeat hunters).
Conflict & Law Enforcement

• After gazettment & ICD
  – subsistence offenders were more commonly arrested
  – More positive local attitudes towards conservation
  – Distribution of ICD benefits

• Despite the above, conflict continued to be dominated by prohibitions on commercial activities
Conflict & Law Enforcement

- graph
Conflict & Law Enforcement

• Decline in violent conflict after has been used as an indicator of ICD success
• The arrest data show that – after gazettement fewer commercial offenders were arrested & fewer attacks on rangers occurred
Verbal Threats Towards Gorillas

- Only recorded before & during gazettement
- Only in western areas
- Only by farmers seeking promised financial compensation for gorilla crop-raiding
Verbal Threats Towards Gorillas

1992

Farmers were not happy because of not being paid in time and again they were saying that if they do not pay them, they will kill the gorillas
Conflict & Gorillas

- Law enforcement at Bwindi first targeted mining & timber sites as these were significant threats to the gorillas
- Loss of jobs & income were primary triggers of the violent conflict
- First ICD focused on subsistence resource provision
Conflict & Gorillas & Poverty

• Later ICD of income generation & alternative livelihoods
• Likely more effective in resolving conflict, reducing threats to gorillas & alleviating poverty
• However these schemes tended to benefit wealthier households whereas pit sawing undertaken by poorer villagers (Blomley et al 2010)
Conflict & Gorillas & Poverty

• Target villagers who were denied the benefits that they received from commercial activities before gazettement

• This targeting of specific resource users follows the model of Bwindi’s MUP

• Aims: conflict resolution, gorilla conservation & poverty alleviation

• ICD success: the right people with the right benefit for a sufficient amount & duration
Conflict Analysis

• This study demonstrates how use of typologies in a quantitative analysis of conflict over natural resources can improve understanding of how local livelihoods are affected by protected areas.

• Effective use of existing data is important.

• Law enforcement data following verification can provide a wealth of information that far supersede data from attitude surveys.
Research to Policy to Practice

• Conservation policy articulates pro-poor & access-rights approaches that are founded on the principles of good governance
• Yet protected area management remains under the legacy of law enforcement & criminality regimes
• Law enforcement is needed but we must move away from ‘illegal activities’
• A new focus: resource use as indicators of livelihood needs & aspirations
• How can we achieve this?
Research to Policy: Capacity Building for Conservation Through Poverty Alleviation

• IIED’s project with Darwin Initiative & DFID funding

• Goal:

• Two stages:
  – Research: gain a deeper understanding of the profiles & motivations of different resource users and their involvement with park management
  – Capacity building for policy advocacy: workshops
Questions remain....

• Who are the unauthorised resource users:
  – Are they the poorest of the poor?
  – Do they live the closest to the national park boundary?
  – Do they have fewest livelihood alternatives?
  – Do they have limited access to health care & education?
Questions remain....

- Many ICD evaluations on ‘impact’ but has good governance been achieved
  - Informed local communities
  - Effective participation – not just attendance at meetings but meetings that result in a negotiated agreement
  - Fair compensation
  - Equitable benefit sharing
IIED’s current project

• Watch this space!