

Bioenergy: World Bank Group Safeguards and Performance Standards

George C. Ledec

Lead Ecologist, Africa Region

The World Bank

For further information, contact gledec@worldbank.org



World Bank Safeguard Policies: An Overview

- **Safeguard Policies are Board-approved rules for addressing environmental and social issues within Bank-supported development projects.**
- **Effective implementation of Safeguard Policies provides a “License to Operate” in a world concerned with sustainable development.**

World Bank Group Safeguard Policies and Performance Standards

- IBRD/IDA – Government lending
 - 10 Environmental, social and legal Safeguard Policies
 - IFC – Private-sector lending
 - MIGA – Guarantees
- 
- Performance Standards
- One or both systems may apply to a bioenergy project

The 10+ Safeguard Policies

- **OP/BP 4.01: Environmental Assessment**
- **OP/BP 4.04: Natural Habitats**
- **OP/BP 4.36: Forests**
- **OP 4.09: Pest Management**
- **OP/BP 4.11: Physical Cultural Resources**
- **OP/BP 4.12: Involuntary Resettlement**
- **OP 4.10: Indigenous Peoples**
- **OP/BP 4.37: Safety of Dams**
- **OP/BP 7.50: Projects on International Waterways**
- **OP/BP 7.60: Projects in Disputed Areas**

Plus: Access to Information Policy

Plus OP 4.00: Piloting the Use of Borrower Systems

Environmental and Social Impacts of Bioenergy

Projects are linked to:

- **Obtaining the Feedstock (Biomass)**
 - **Agriculture (irrigated or rain-fed crops)**
 - **Forestry (natural or plantations)**
 - **Solid waste (agricultural residues, landfills, etc.)**
- **Converting the Biomass to Energy**
 - **Liquid wastes (water pollution)**
 - **Combustion (air pollution)**
- **Transporting the Feedstock or Energy**
 - **Road or rail transport; pipelines**
 - **Power transmission lines**
 - **Ports**

Potential Environmental and Social Impacts of Bioenergy Projects

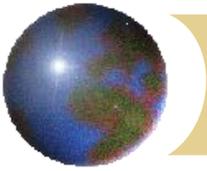
- Direct and induced impacts
 - Deforestation and intensified land use
 - Water use and pollution (effluents, agrochemicals, sedimentation)
 - Biodiversity loss
 - Invasive species
 - Displacement of food crops
 - Displacement of vulnerable populations
 - Community and worker health and safety
 - GHG impacts: Positive or negative?



Environmental Assessment OP 4.01

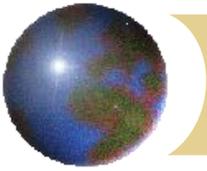
OP 4.01 is the **Umbrella Safeguards Policy** which specifies the environmental assessment process used to ensure compliance with the other Safeguard Policies.

- **Category A** projects require full EIA (ESIA) with EMP (ESMP).
- **Category B** projects require some type of environmental analysis report (more flexible).
- **Category C** projects require no environmental analysis (beyond initial screening).
- **Category FI** projects require assessment/strengthening of capacity of financial intermediaries that fund sub-projects



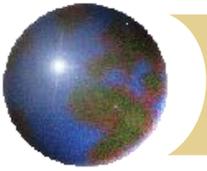
Screening: Category A

- ⊕ Category A: “significant, adverse environmental impacts that are ‘sensitive,’ diverse or unprecedented”
 - “Sensitive” impact: May be irreversible or raise significant issues reflected in various safeguard policies relating to natural habitats (e.g., lead to loss of major natural habitat), involuntary resettlement, impacts on indigenous peoples or physical cultural resources
 - May affect an area broader than sites or facilities subject to physical works



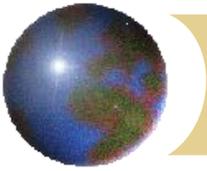
Category A: Possible Bioenergy Examples

- ✦ Large-scale agriculture, irrigation/drainage, tree plantations
- ✦ Large industrial facilities, especially with significant pollution
- ✦ Large-scale infrastructure (roads, railways, ports)
- ✦ Any greenfield project where there is likely to be significant displacement of people or their livelihoods



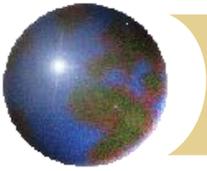
Screening: Category B

- ⊕ Category B: “potential adverse environmental impacts...are less adverse than category A; site-specific, few if any irreversible, mitigatory measures designed more easily than for Category A”
 - Scope of EA narrower than for Category B
 - Different instruments could be used, not necessarily a full, detailed ESIA



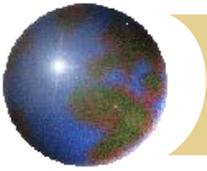
Impact Assessment

- ✦ Identify potential impacts (positive/negative, direct/indirect, “cumulative” or “associated”) on physical, biological, and social impacts
- ✦ Distinguish impacts that can be mitigated from those that cannot (“residual impacts”)
- ✦ Compare residual impacts (e.g., emissions levels) to World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines)
- ✦ Justify any deviation from EHS Guidelines
- ✦ Conduct Strategic (sectoral, regional) EA where appropriate
- ✦ Consider extent and quality of available data, key data gaps, uncertainties and issues requiring further study



World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines)

- ✦ *Pollution Prevention and Abatement Handbook (PPAH)* issued in 1998 to provide guidance to Borrowers and the Bank regarding acceptable levels of air emissions, liquid effluents, solid and hazardous waste discharge and appropriate control technologies for a broad range conditions
- ✦ Reissued online in 2007 as WBG EHS Guidelines: includes -
 - General EHS Guideline for all sectors and
 - Industry-specific emissions, effluent, waste management, energy efficiency, occupational and community safety and health standards for industry sectors.
- ✦ EHS Guidelines posted:
<http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvironmentalGuidelines>



Stakeholder Consultation

- ✦ Category A and B:
 - Client consults project-affected groups and local NGOs on project impacts and takes their views into account
 - Initiates consultations as early as possible
 - Continues throughout project implementation as necessary to address EA issues affecting stakeholders
- ✦ Category A: at least two consultations during preparation
 - After screening and before TOR for EA is finalized
 - When draft EA is prepared



Natural Habitats OP 4.04

Objectives:

- Promote **natural habitat conservation**
- Avoid unjustified or excessive **damage** to natural habitats

Triggered when:

- Potential for **significant loss or degradation** of natural habitats
- Opportunity for **benefit** to natural habitats

Natural Habitats

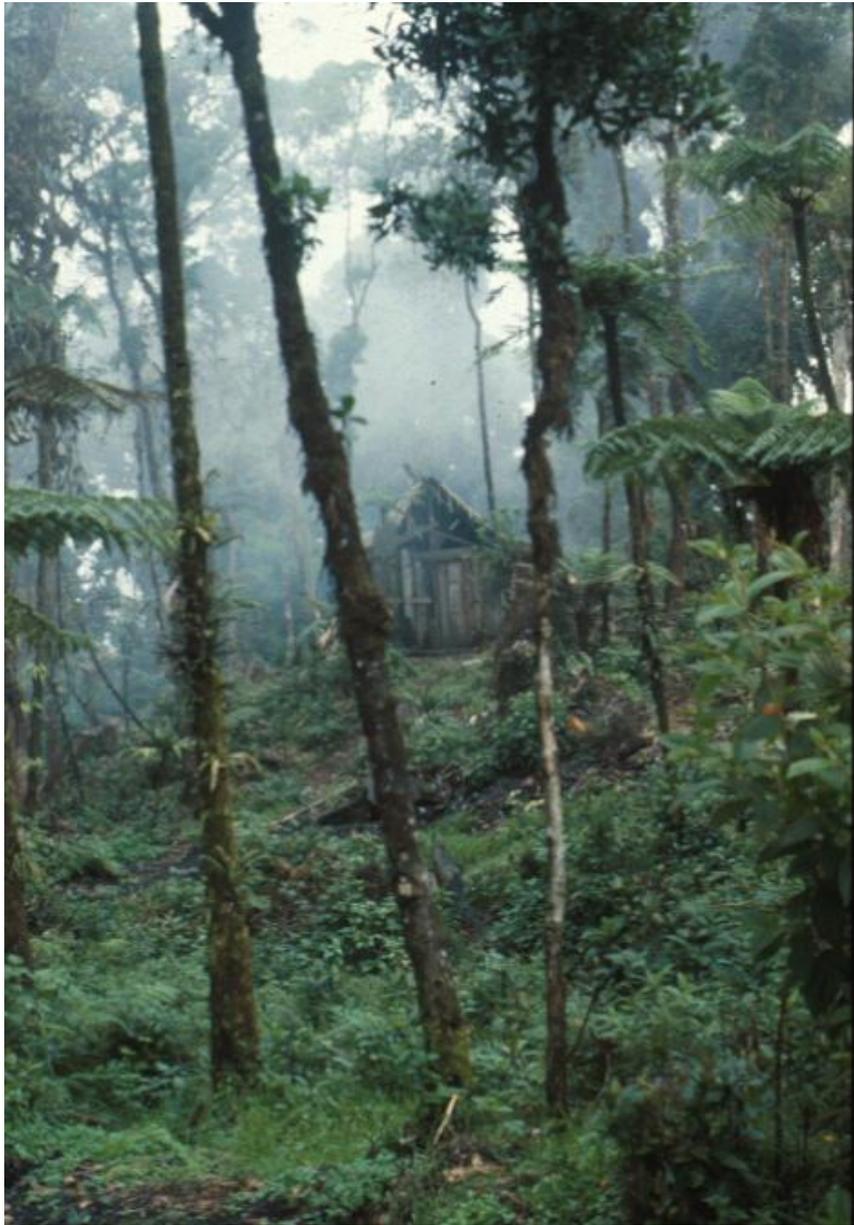
Requirements and Considerations

Requirements

- **Critical natural habitats:** Avoid significant loss or degradation
- **Non-critical natural habitats:** Avoid, minimize or mitigate loss or degradation

Key Considerations

- Natural habitats are not always pristine
- Adverse impacts can be direct or indirect
- Addressed through project EA
- Projects with potential for significant loss or degradation classified as Category A
- Potential for win-win: Compensatory protected areas (conservation offsets)



Forests OP 4.36

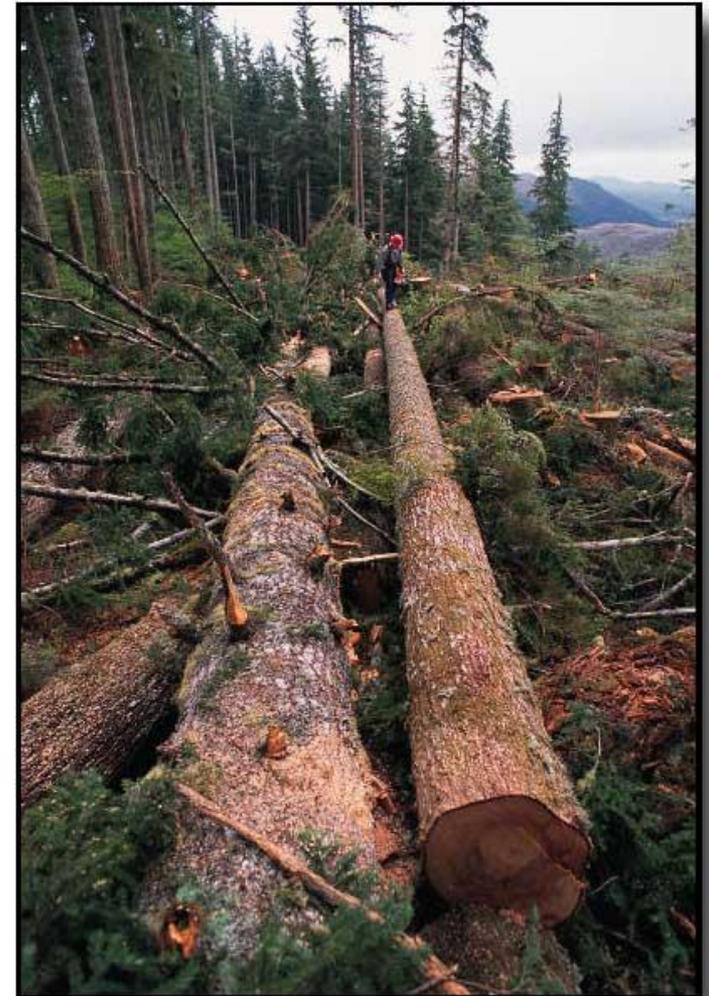
Overlaps with Natural Habitats Policy:

- Forests policy applies to all types of natural forests, as well as plantation forests
- Natural Habitats policy applies to all types of natural habitats, including natural forests
- Both apply to all types of projects that would affect forests and natural habitats, but OP 4.36 has additional requirements for **forestry** projects

Forests Policy Requirements and Key Issues

Key Requirements

- Avoid significant damage to Critical Forests
- Minimize and mitigate damage to non-critical natural forests
- Forestry plantations:
 - Avoid any damage to Critical Natural Habitats
 - Prevent and mitigate damage to natural habitats and biodiversity
- Meaningful participation of forest-dependent communities in natural forest harvesting
 - Only **community-based** harvesting under certain conditions in **critical** forests
 - **Commercial harvesting** under certain conditions in **non-critical** forests



Quick Summary of Natural Habitats and Forests Policies

- **Under both policies, World Bank-supported projects:**
 - **Must not damage critical forests or critical natural habitats.**
 - **Should avoid or minimize damage to other forests or natural habitats.**
 - **If damage to non-critical forests or natural habitats is necessary and justified, it must be adequately mitigated, typically through a conservation offset under the same project.**

Finding Critical Natural Habitats (including Critical Forests) in Your Projects



- **EA process is official Bank mechanism for determining if project area qualifies as Critical Natural Habitat (CNH).**
 - EA TOR to specify searching for and evaluating CNHs (see *Forests Sourcebook*, p. 312).
 - Bank evaluates EA report and decides which areas qualify as CNHs.
- **Besides EA process, Bank uses complementary methods to assess likely CNHs in project area. Why?**
 - Early warning (before EA report ready).
 - Help define project intervention sites (include or exclude).
 - Basis to evaluate completeness and accuracy of EA report.

Likely Sources of Critical Natural Habitat Information (besides the EIA)

➤ People:

- WB Regional Environmental or Safeguards Unit
- Government Agencies (protected areas, natural resources, environment)
- Conservation NGOs (national or international)
- Expert individuals (national or international)
- Public consultations

➤ Documents

- Protected Areas Directories
- Important Bird Areas (books)
- Conservation Atlases (various)

➤ Electronic Databases (especially IBAT)



IBAT is Now Available to WB Staff!

- **Integrated Biodiversity Assessment Tool (IBAT) is GIS-based global biodiversity database.**
- **Especially useful for obtaining list and map of protected areas and other critical NHs in each country.**
- **“IBAT for IFC” now available free to all WB staff on trial basis during FY13.**
- **To begin using IBAT, see simple Instructions Sheet, available from George Ledec.**
- **IBAT is good starting point for project-specific information, but does not replace field-based due diligence or stakeholder consultation on critical NHs.**

Pest Management OP 4.09 and BP 4.01

Objectives:

- Reduce reliance on synthetic chemical pesticides
- Promote Integrated Pest Management (IPM) and Integrated Vector Management (IVM)
- Minimize the environmental and health hazards of pesticide use

Triggers:

- Project **procures** pesticides or pesticide application equipment
- Project would lead to **substantially increased pesticide use**
- Project would maintain or expand **unsustainable or risky** pest or vector management practices



Pest Management Policy: Key Requirements

- Bank prior review of **pesticide procurement**
 - By appraisal, Borrower prepares a **Positive List** of eligible substances; or
 - During implementation, Borrower requests Bank's **No-Objection** to each substance
 - **Avoid** pesticides in WHO Classes IA, IB, and II; POP and PIC lists
- Support **technical assistance and training** in:
 - Integrated pest/vector management
 - Safe pesticide handling

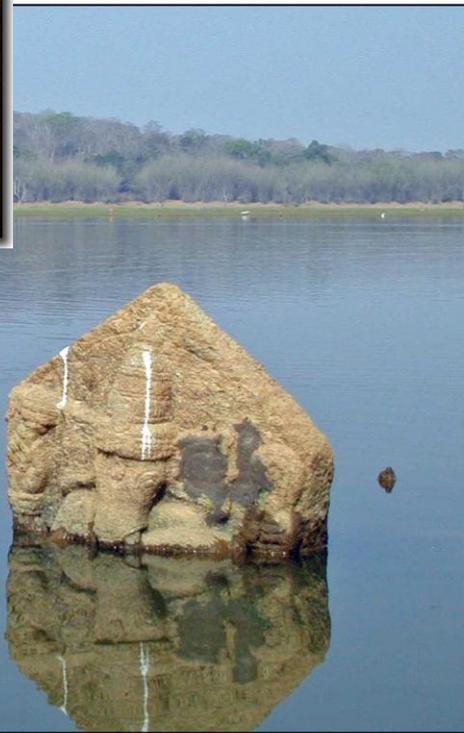
Physical Cultural Resources

OP 4.11

Seeks to avoid or mitigate adverse impacts on physical cultural resources from **civil works**

Covers objects, sites, structures, and natural features of archaeological, historical, religious, or other cultural significance

Addressed as part of EA process; **chance finds procedures** during implementation



Involuntary Resettlement

OP 4.12

- Triggers
 - **Involuntary taking of land and other assets** (for civil works, commercial agriculture, etc.)
 - **Restriction of access to natural resources** within protected areas
- Provides for:
 - **Physical relocation** (when needed)
 - **Compensation** for land taken or other assets lost
 - **Livelihood restoration**; support for alternative livelihoods

Bioenergy: Sources of Involuntary Displacement

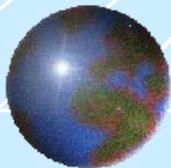
- Taking of land or water resources for agricultural crops or forestry plantations
- Loss of access to traditional resources (grazing lands, etc.)
- Taking of land for civil works
 - Processing or storage facilities
 - Infrastructure to convey feedstock or product: Roads, railways, ports, pipelines, power lines

Mitigation Measures

“LAND vs. CASH”

- Providing “land for land” is the preferred option for people whose livelihoods are land based (e.g. *farmers*)

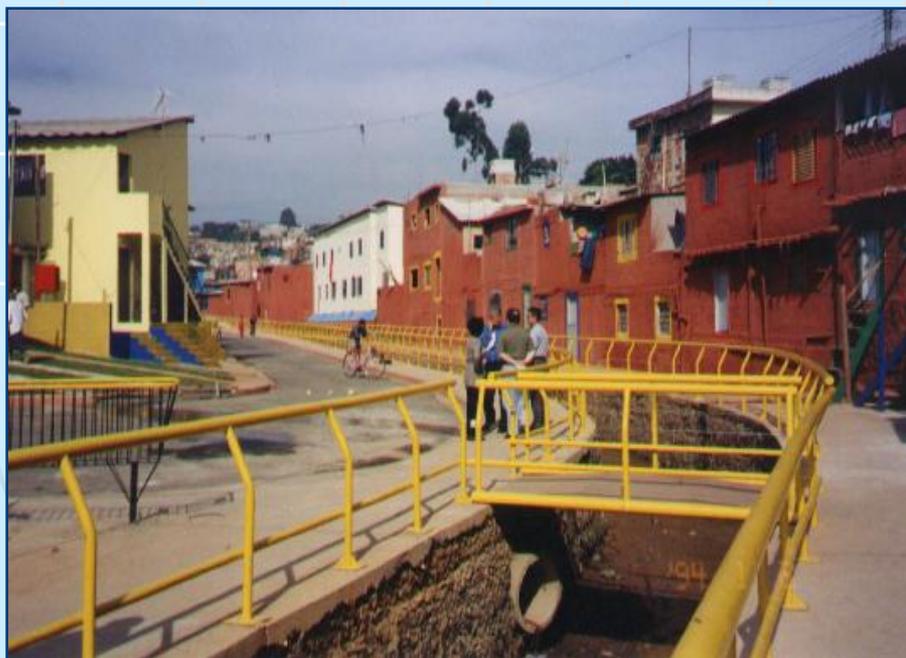


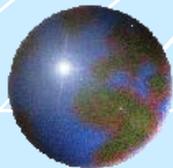


Mitigation Measures (Contd.)

Safeguard
Policies

- Link compensation/resettlement implementation to project timetable.





Cut-off Date

Safeguard
Policies

- Needed to discourage speculative squatting, in advance of project
- Date is established for when the census begins of the affected area, or when the site is clearly demarcated on the ground (local people need to be aware that area is off-limits)
- People who encroach upon (move into or start using) project area after official cut-off date are not entitled to any assistance, even under WB policy

Indigenous Peoples (Vulnerable Ethnic Minorities) OP 4.10

Seeks to ensure that vulnerable minorities:

- Do not suffer adverse consequences from development projects
- Receive culturally compatible economic and social benefits
- Benefit from prior, informed consultation and participation in projects that affect them
- Requires broad community support for projects to proceed
- Key issues in bioenergy projects include:
 - Land tenure security
 - Maintaining access to natural resources
 - Benefits sharing



Safety of Dams OP 4.37



Objective:

- Ensure adequate safety of dams in projects that involve construction of new dams, or projects that depend upon existing dams for their safe and effective operation
- Includes water reservoirs as well as mine tailings dams

Triggers:

- Project involves construction of new dam(s)
- Project is dependent on existing dam, or a dam under construction

Safety of Dams

Key Requirements

*Small dams
with no design
complexities:*

- Use generic dam safety measures designed by qualified engineers.

*Large dams
or dams with design
complexities:*

- If **new**: Independent panel of experts; special procedures including emergency preparedness plan
- If **existing**: Independent dam specialists inspect and evaluate safety status and operation, recommend measures if needed

Projects in International Waterways, OP 7.5

Objective: Ensure that Bank projects do not negatively affect the use and protection of international waterways nor affect the relations between the Bank and the countries involved.

Applies to:

hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial and similar projects that involve the use or potential pollution of international waterways

Required design and engineering studies of such projects--even when WBG is not financing works

Requirement: Beneficiary state must formally notify the other riparians of the proposed project and its details.

Access to Information Policy (IBRD and IDA)



- Intended to increase accountability and transparency
- Strong presumption in favor of disclosure of most project documents



IFC Performance Standards

- PS 1: Social and Environmental Assessment and Management System
- PS 2: Labor and Working Conditions
- PS 3: Pollution Prevention and Abatement
- PS 4: Community Health, Safety and Security
- PS 5: Land Acquisition and Involuntary Resettlement
- PS 6: Biodiversity Conservation and Sustainable Natural Resource Management
- PS 7: Indigenous Peoples
- PS 8: Cultural Heritage



Safeguards and Performance Standards: Emerging Issues

- **Safeguards Updating and Consolidation Process**
 - **Increased convergence likely with IFC Performance Standards**
- **Aggregate Conservation Offsets for cumulative impacts of multiple projects (esp. private sector)**
- **Beyond Compensation: Local Benefits Sharing (esp. energy projects)**
- **What is YOUR Emerging Issue??**
-