



# **The relevance of certification to managing for ecologically sustainable woodfuel production**

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# Outline

- Introduction
  - FAO/IEA Bioenergy T31 collaboration
  - Chapter 3 objectives and structure
- Examples of issues and mitigations
- Criteria and indicators
- Where to go from here

# FAO/IEA Bioenergy T31 Collaboration

- Joint project on certification of woodfuel production systems
- Global focus
- Objective: To evaluate criteria and indicators applicable to forest fuel production systems
- Why certification?
  - public demand
  - 3<sup>rd</sup> party audit
- National standards



(Source: [www.womenaid.org](http://www.womenaid.org))

# Chapter 3: Environmental impacts of woodfuel harvesting

- Focus is on potential ecological impacts at the forest level
- Objectives:
  - identify impacts
  - provide guidelines
  - advance certification



(Source: USDA)

# Structure of the chapter

- Six tables summarizing ecological issues
- Table of mitigation practices
- Complete set of C&I for sustainable forest fuel production systems
- Strategies for adoption and monitoring
- Adaptive Forest Management Framework

# Principles for sustainable woodfuel production systems

1. Institutional capacity exists
2. Biomass removal is included in forest management plans
3. Productive capacities of ecosystems are maintained
4. Biological diversity is maintained
5. Systems lead to net reduction in GHGs





# Identification of potential environmental issues

6 Tables:

- Soils
- Water
- Productivity
- Biodiversity
- GHG balances
- Global and supply-chain issues



(Source: [www.edcnews.se](http://www.edcnews.se))

# Potential impacts of operations on forest biodiversity



<b>Issues</b>	<b>Contributing activities</b>
Loss of DWD and dead wood needed for survival of some species	Removal of dead wood and DWD
Changes in forest composition	Replacement of natural forests with mono-specific plantations
Species loss due to habitat degradation	<ul style="list-style-type: none"><li>■ Extensive clearing</li><li>■ Land conversion</li></ul>



# Landscape planning to mitigate biodiversity loss



(Source: B Titus)



(Source: [www.nature.org](http://www.nature.org))

- Use landscape analysis techniques to assess patch size and shape, connectivity, etc.
- Create adequate reserves and buffer zones (riparian, sensitive species)

# Practices to mitigate biodiversity loss



(Source: CT Sith)



(Source: www.forestryimages.org)



(Source: www.californiaherps.com)



(Source: home.clara.net)

- Retain residual trees
- Retain DWD/deadwood
- Encourage uneven stand structure



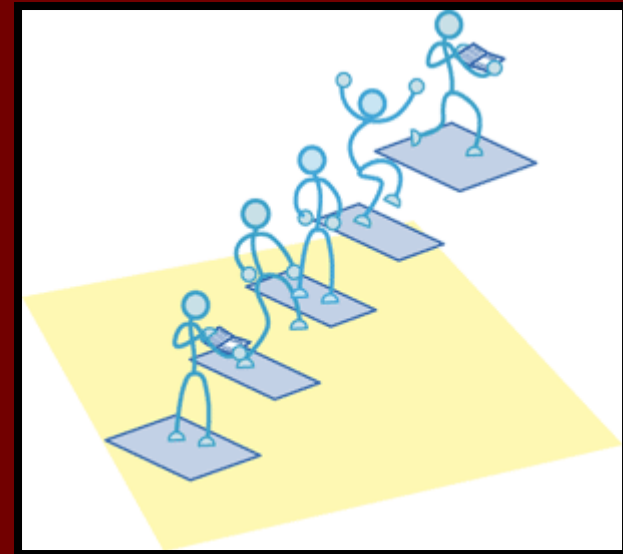
# Criteria and Indicators

5 principles  
14 criteria  
45 indicators  
32 verifiers

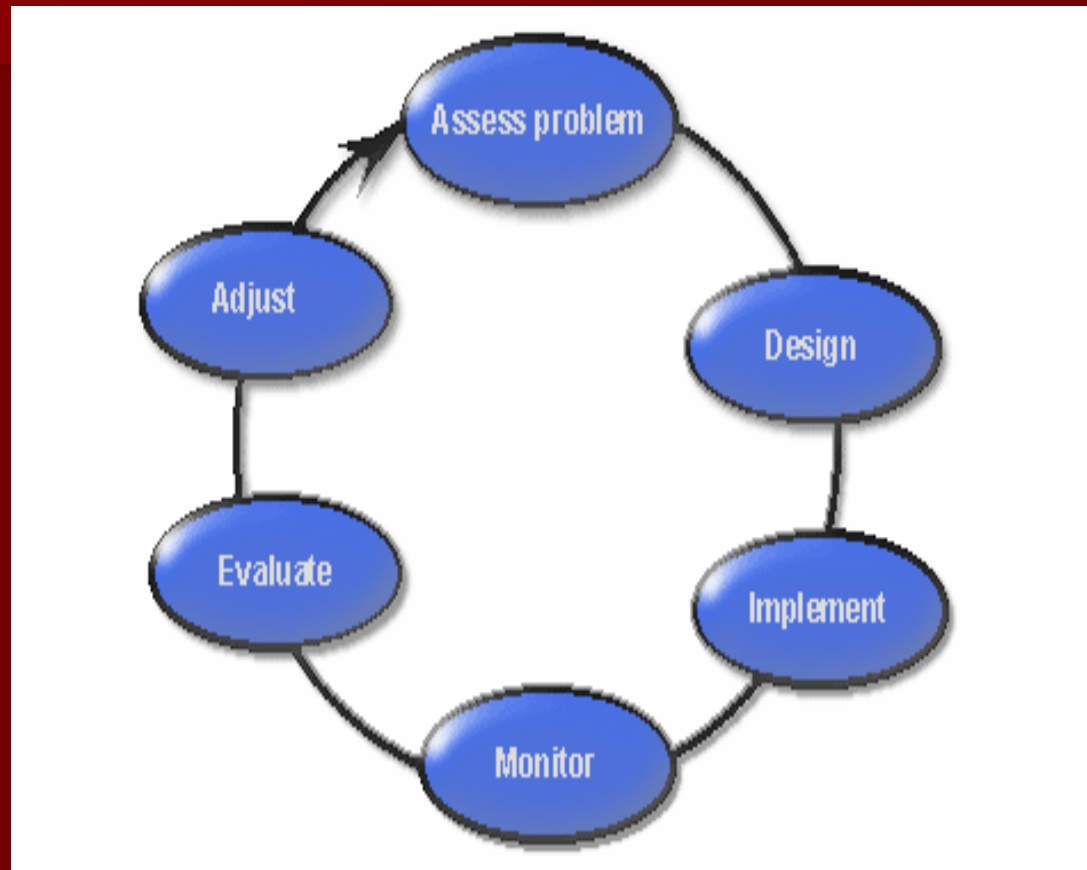
- Review of 9 major certification systems and processes
- Address all identified issues
- Measurable
- Adaptable

# Strategies for adoption and monitoring

- 2 approaches to encourage participation:
- **Variable monitoring**
  - Monitoring intensity is adjusted according to priorities and capacity
- **Tiered certification**
  - Preliminary
  - Basic
  - Full



# Adaptive Forest Management framework



(Source: [www.for.gov.bc.ca](http://www.for.gov.bc.ca))

# Recommendations

- Incorporation of C&I into policy planning and SFM certification systems
- Creation of additional C&I for entire bioenergy supply-chain
- Continual improvement through research and AFM



# Opportunities to engage

- Currently seeking reviewers
- All questions, opinions and expertise welcome

**THANK YOU!**



(Source: Duncan Brimsmead, 2007)