International Congress on "**Innovation and new horizons in tree nursery stock production and forest restoration – from research to business** "
Rome, 12-13 March 2009

SFM and voluntary standards for afforestation and reforestation:
a comparative analysis

Davide Pettenella and Laura Secco
Dept of Land and Agro-Forestry Systems
University of Padova - Italy

Outline

A. Introduction: some key concepts
B. A general framework for plantations' SFM standards
C. A (tentative) comparison among selected standards
D. Conclusions

A. Introduction

A. Introduction

- Plantation → frequent conflicts in land use:
  - Large scale industrial investments
  - Incentives and regulations by public authorities
  - Wood vs. food crops
  - Property rights and NWFPs traditional collection rights
  - Use of chemicals and GMOs
  - …

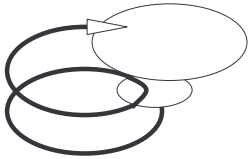
Role of standards

- SFM standards are accepted instruments to reduce these conflicts and to assess:
  1) *progress towards sustainable* management of forests,
  2) forest management *performances* at FMUL

for certification and/or decisions on forest investments

Two approaches

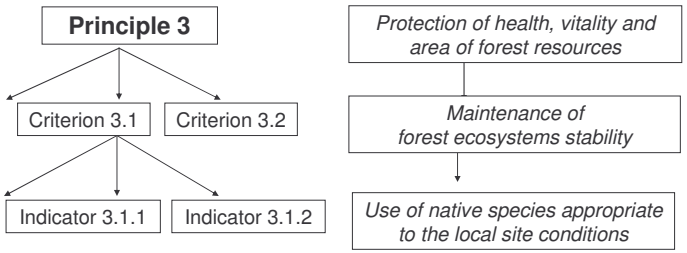
- System bases approach
- Performace based approach



Deming cycle
(PDCA: Plan, Do, Check, Act)

SFM standards (P,C & I)

Hierarchical and systemic approach: from general guidelines to details, logical connection, comprehensiveness



SFM standards and Guidelines

Guidelines: a set of guiding principles in support of the policy, legal, regulatory and technical enabling conditions for planted forest management, with no indicators

↓

FAO, 2006 Responsible management of planted forests. Voluntary guidelines.

→ Not in the scope of this study

B. A general framework for plantations' SFM standards

Research scope and questions

Several SD and SFM standards sets world-wide… … but only few specific for plantations (CIFOR C&I, some forest certification schemes)

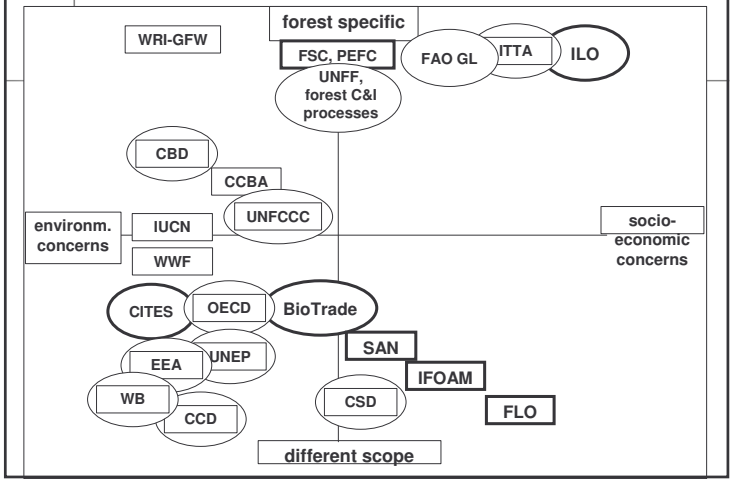
Questions:

1. Are the forest plantations enough considered into SD and SFM standards?
2. Are the existing standards effective in assuring the SM of forest plantations?
3. Which are the main obstacles in complying with such standards (the case-study: poplar plantations in Italy)?

A general framework: c*lassification of forest-related SD standards by approach*

	Forest-related initiatives	Other sectors initiatives
System-based initiatives ***(descriptive indicators)***	**ITTA, Forest C&I Processes, UNFF, some national SFM standards, FAO GL, WRI-GFW**	**EEA, OECD, UNCBD, UNCCD, UNCSD, UNEP, WB, IUCN, WWF Living Planet**
Performance-based initiatives ***(prescriptive indicators = minimum requirements)***	**ILO, FSC, PEFC, national SFM standards**	**CITES, UNCTAD Biotrade, CCBA, IFOAM, FLO, SAN**

[cont.] c*lassification by scope*



Attention paid to forest/plantations of system-based initiatives → assessing progress towards SD (at global, regional or national level)

Initiative	Scope	Criteria/Indicators #	Forest-related indicators	Planted forests
EEA	environment	42 key indicators	1	-
Forest C&I processes	sustainable forest management	27÷67 indicators (it depends on process)	all	X
ITTA	tropical timber producing forests	10 themes	all	-
OECD	environment	18	3	-
UNCBD	biodiversity	18 (to date)	6 (to date)	X
UNCCD	desertification	it depends on country	it depends on country	X
UNCSD	sustainable development	60	2	-
UNEP (MEA)	ecosystem changes	10-15 key indicators	1	X
UNFCCC	climate changes	it depends on country	at least 2	X
UNFF	sustainable forest management	about 21 themes	all	X
WB (WDI)	environment	15 key indicators	1	-
IUCN	nature conservation	21 themes	4	X
WRI - GFW	frontier forests	4 themes	all	-
WWF Living planet	resources demand	8 themes	3	-

Attention paid to forest/plantations of performance-based initiatives

→ respect of minimum requirements (mainly at FMUL)

Initiative	Scope	Criteria/Indicators #	Forest-related indicators	planted forests
CITES	threatened species	7 + listed species	listed species	-
ILO	health and safe work	732 indicators	all	-
UNCTAD BioTrade Initiative	sustainable development through trade/investments in biological resources	26 criteria, 55 indicators	1 specific, several potentially related to planted forests	**1÷8**
CCBA	climate change mitigation projects	23 themes	5 specific to forests	**2**
FLO	fair trade	17 criteria 100 indicators	8 specific to forests	**4**
FSC	sustainable forest management	58 criteria Indic. by country	all	**9 C, I# depends on country**
IFOAM Generic standards	organic farming (organic ecosystems)	4 themes 22 criteria	5-6 specific to forests	**2**
IFOAM Draft on Biodiversity/Landscape	organic farming	9 criteria 21 indicators	9÷13 potentially related to forests	**13**
PEFC	sustainable forest management	C&I numbers depend on country	all	**It depends on country**
Rainforest Alliance (SAN)	sustainable agriculture	90 criteria, about 500 indicators	7 criteria, 22 indicators	**7**

C. (Tentative) comparison among selected standards

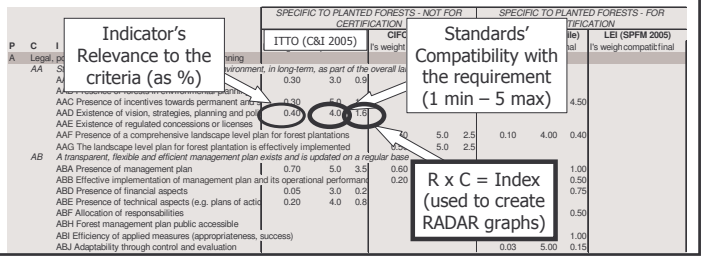
The methodology: 1st step

1. **Selection of SFM standards**: countries relevant for planted area, standards' availability (sp. for plantations), different types (performance or system-based)

	Level	Area	Specific for plantations	(Directly) For certification
ITTO	International	tropical	no	no
CIFOR	International	tropical	yes	no
CERTFOR (PEFC)	National	Chile	yes	yes
LEI	National	Indonesia	no	yes
FSC	International	world-wide	partially	yes

B. The methodology: 2nd and 3dt steps

2. Preparation of a '**reference standard**' (Holvoet and Muys, 2004 – modified): 311 indicators collected from 164 standards + those specific for plantations, total: about 400 indicators
3. **Desk study** based on the **minimum requirements** of each scheme



The methodology: Weaknesses

NOTE: Results do not imply a standard is *better* or *worse* than the others: general, qualitative indication on ***degree of compatibility*** among standards

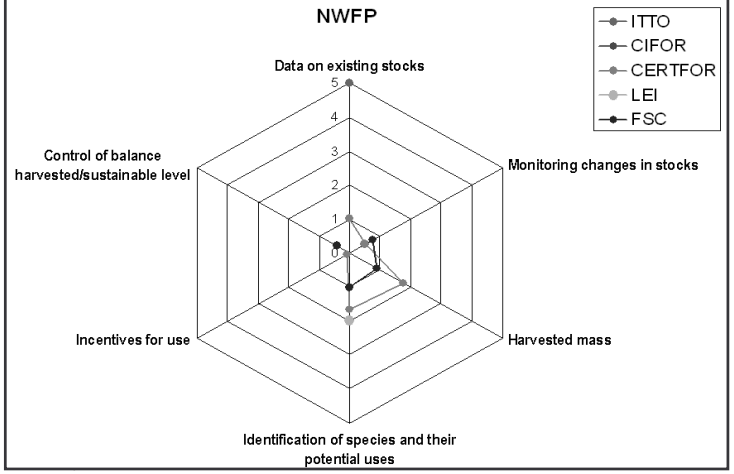
Weaknesses:

- Subjective judgment to assess the Index (even if comparison is carried out at the lowest possible level: indicator)
- Some application of the standards may be more demanding than the minimum requirements of general standards (e.g. FSC)
- Performance- vs. system-based standards (compared separately?)

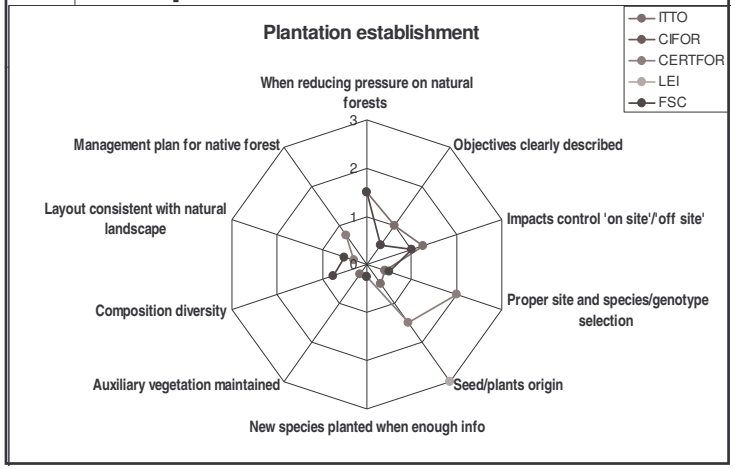
The methodology: Strenghts

- Harmonisation/***simplification*** in standards comparison
- Results offer a ***proxy*** of the extent to which the standards can indicate sustainability
- Possibility for immediate identification of:
  - ***innovative*** themes (e.g. visual impacts of forestry activity)
  - ***common*** themes (e.g. fire management, FMP)
  - ***neglected*** themes (e.g. NWFPs) with respect to SFM
- A tool for a ***standard improvement*** based on comparative analysis

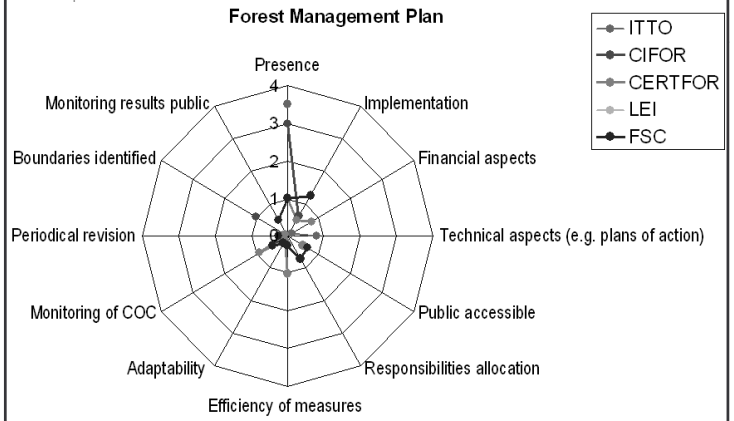
Ex. 1 - Standards' compatibility on NWFP



Ex. 2 - Standards' compatibility on plantation establishment



Ex. 3 - Standards' compatibility on FMP



D. Conclusions

Conclusion 1

- Low role recognized to forest plantations within several SD international initiatives: **no or few indicators** → underestimation of their growing role in forestry, environment and social sustainability
- Indexes developed to define **attractivity for forest investors** usually include only quantitative measures of forest resources (area)
- → need for integrating more comprehensive information *(e.g. plantations area/natural forest area in %)*

Conclusion 2

- ***For large scale industrial plantations:***
  SFM standards may facilitate a **new entrepreneurial approach** in plantations management (e.g. CertFor Chile – under the PEFC umbrella):
  - C&I related to timber products are minor
  - *focus* on organisation/management efficiency, stakeholders involvement, workers and local communities rights, environmental measures

economic efficiency through management improving and social conflicts preventing

Conclusion 3

- ***For small scale (family) plantations:***
  some SFM standards may risk to be too high demanding

  → unbalanced (harder) access to certification, investments and markets

Conclusion 4

- Differences among SFM standards based on performance indicators (e.g. FSC, PEFC) should be maintained for marketing reasons: products qualification/ differentiation