International Congress on Cultivated Forests
"Forest policies and market mechanism to enhance the provision of ecosystem goods & services from plantation"
Bilbao, 3-7 October 2006

The effectiveness of SFM for forest plantations: an empirical analysis based on poplar plantations in Italy

Laura Secco and Davide Pettenella
Land, Agro & Forestry Systems Dept. (Dip. TESAF)
University of Padova
laura.secco@unipd.it

PPT organisation

A. Introduction: a general framework for plantations' SFM standards
B. A (preliminary) comparison among selected standards
C. The case of Italian poplar plantations: do they comply with FSC and PEFC standards?
D. Conclusions

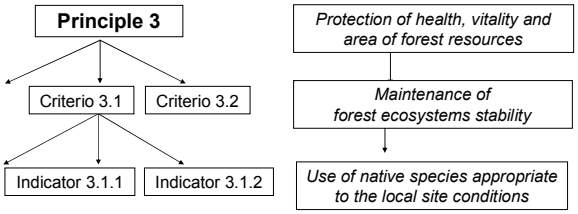
A. Introduction: a general framework for plantations' SFM standards

A. Introductive notes

- Today, SFM standards are accepted instruments to assess:
  1) *progress towards sustainable* management of forests,
  2) forest management *performances* at FMUL
  for certification and/or decisions on forest investments
- Increasing role of forest plantations + growing environmental concerns → need for standards to address establishment/management of forest plantations according to the sustainability principles

A. Introductive notes: P,C&I

Systemic approach: from general guidelines to details, logical connection, comprehensiveness



A. Research scope and questions

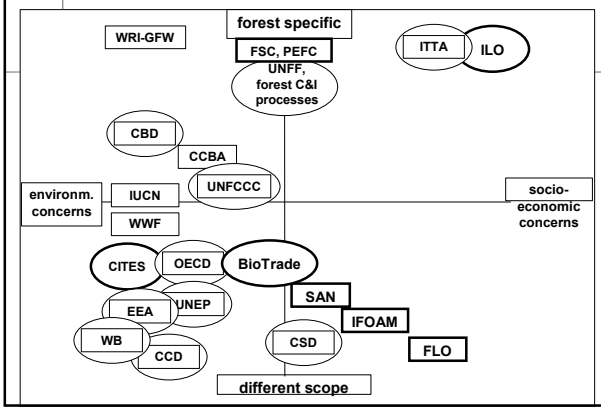
Several SD and SFM standards sets world-wide…
… but only few specific for plantations (FAO code, CIFOR C&I, ITTO guidelines, some forest certification schemes)

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

A. A general framework for plantations' SFM standards: c*lassification by approach*

	Forest-related initiatives	Other sectors initiatives
System-based initiatives ***(descriptive indicators)***	**ITTA, Forest C&I Processes, UNFF, some national SFM standards, 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 #	Specific Is for 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 #	Specific Is for 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

B. (Preliminary) comparison among selected standards

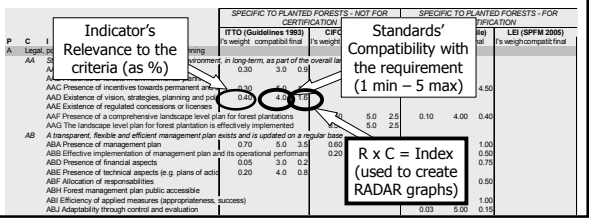
B. The methodology: 1st step

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

	Level	Area	Specific to plantations	For certification
ITTO	International	tropical	yes	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



B. 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 (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?)

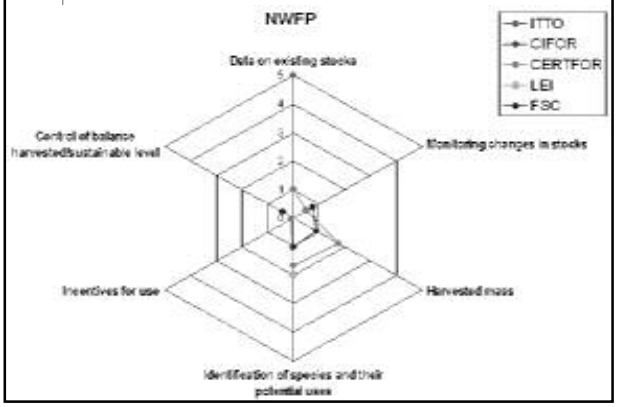
B. The methodology: Strenghts

- 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

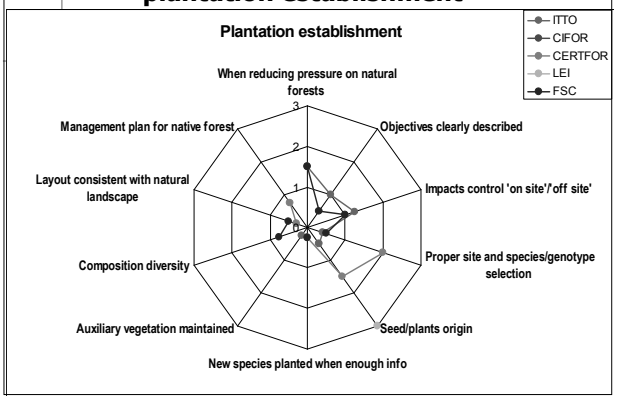
A radar graph… How does it work?

B. Ex. 1 - Standards' compatibility on FMP

B. Ex. 2 - Standards' compatibility on NWFP

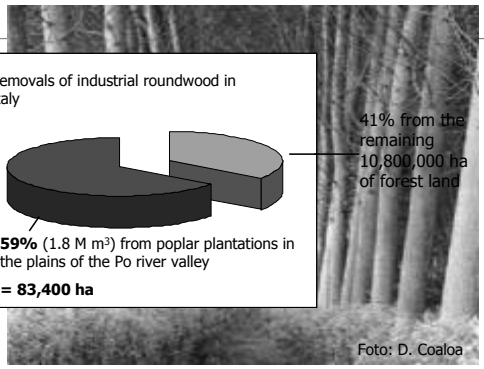


B. Ex. 3 - Standards' compatibility on plantation establishment



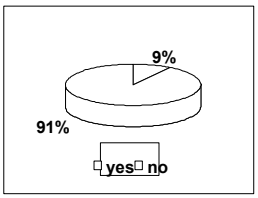
C. Italian poplar plantations compatibility with FSC and PEFC standards

C. The Italian poplar plantations

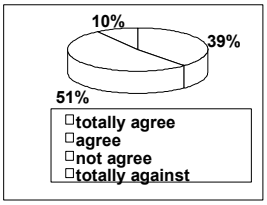


C. An *ad hoc* survey among Italian poplars owners: 98 questionnaries + 5 direct interviews, 34.7% response rate, mainly along the Po river valley (North)

Q. Do you think there's a need to improve the environmental impacts related to poplar management?

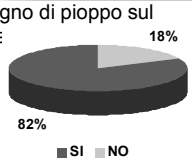


Q. SFM standards (for certification) as tool to give assurance of the plantation sustainability at FMUL:

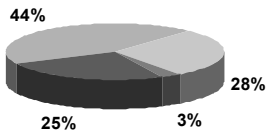


RISULTATI DEL 1° LIVELLO D' INDAGINE (2/4)

Ritenete necessari nuovi strumenti per la valorizzazione del legno di pioppo sul merca

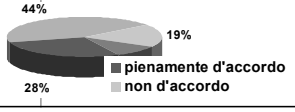


La certificazione quale strumento di marketing:



pienamente d'accordo
abbastanza d'accordo
non d'accordo
assolutamente non d'accordo

La certificazione per vincere la concorrenza estera:



C. The compatibility of Italian poplar plantations with FSC and PEFC standards

	FARMS CHARACTERISTICS				
Location	**Emilia**	**Friuli**	**Lombardia**	**Piemonte**	**Veneto**
Area (ha)	2.5	12	140	4.8	70
Special areas	Galasso law area	protected area	buffer strips along rivers	buffer strips along rivers	pre-park
Sp. protette	no	yes	yes	yes	yes

Requirements	MANAGEMENT				
	Emilia	**Friuli**	**Lombardia**	**Piemonte**	**Veneto**
Plan	no	no	yes, not complete	yes	yes
Monitoring	no	no	no	no	yes
Environmental policy	no	no	yes	no	no

C. The compatibility of Italian poplar plantations with FSC and PEFC standards

Requirem.	CULTIVATION PRACTICES				
	Emilia	**Friuli**	**Lombardia**	**Piemonte**	**Veneto**
Prevailing clone %	100%	100%	50-60%	100%	>80%
Fertilizers	100% organic	100% organic	90% organic 10% chemical	100% chemical	90% organic 10% chemical
Weed control	mechanical	mechanical	mechanical	mechanical	mechanical
Pesticides	nessuno	Dithane M 45	Daskor	Bacillus T.	Dithane M 45
2-5% conv. to natural forests	no	no	yes	yes	yes

D. Conclusions

Conclusion (from part 2: POPLARS)

Main critical indicators (requirements) to comply with for poplar plantations in Italy:

- prevailing clone %
- management plan
- use of pesticides specifically banded (by FSC)
- conversion to natural forest %

Conclusion 1
(from part 1: standards)

- 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
(from part 1: standards)

- ***For large scale industrial plantations:***
  SFM standards may facilitate a **new entrepreneurial approach** in plantations management (e.g. CertFor Chile – under the PEFC umbrella):
  - themes 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

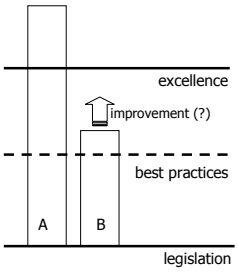
Conclusion 3
(from part 1: standards)

- ***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
(from part 1: standards)

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



Acknowledgements
Lorenzo Guerci - **survey among poplar owners**
Prof. Burt Muys - **sending the 'reference standard' paper**

PPT available at:
http://www.tesaf.unipd.it/pettenella