Prevention and Restoration Actions to Combat Desertification – An integrated Assessment

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PRACTICE objectives

WP1

To create an international **platform of long-term monitoring** (LTEM) sites. To share and transfer evaluation methods and good practices

WP2

To develop an integrated assessment **protocol** (IApro) for prevention and restoration actions

WP3

To **evaluate** and exchange knowledge on prevention and restoration techniques and strategies (linking evaluation with education, knowledge sharing and **dissemination**)

Meeting of Coordinators – Urban, Soil, Desertification and Land Degradation, Brussels, 22-23rd October 2012
What is PRACTICE about?

- Actions to combat desertification
- Evaluation of actions
- Participatory assessment
- Adoption of good practices
  - Knowledge exchange and social learning
A Framework for Evaluation of Actions and Indicator Selection

Actions to combat land degradation

Biophysical data

Key common indicators

Scientists

Socio-economic data

Participatory and integrated evaluation

Site-specific indicators

Stakeholders

Improved actions

Increased adoption

Social learning engagement

Knowledge exchange
LTEMs: **18 (+1) sites in 12 countries.**

Mediterranean Europe (Greece, Italy, Spain, and Portugal),
Africa (Morocco, Namibia, South Africa), Middle East (Israel), China, and
South and North America (Chile, Mexico, and USA)
WP3. Assessment

LTEMs: LAND USE/LAND COVER TYPES

LAGADAS, Greece

CHANGCHLING, China

AGOST, Spain

LAS CAÑAS, Chile

CASTRO VERDE, Portugal

OUED DLIM, Morocco
WP3. Assessment

**LTEMs: DESSERTIFICATION DRIVERS**

- **Overgrazing**
- **Overexploitation of fuel-wood**
- **Unsustainable agricultural practices**
- **Recurrent forest fires**

*Fire recurrence map*
WP3. Assessment

LTEMs: PREVENTION-RESTORATION ACTIONS

Afforestation

Dryland restoration

Landscape restoration

Habitat conservation

Grazing control

Fodder shrub plantations

Restoration of pastures

Sustainable grazing and range management

Evaluate restoration technologies in the “dune veld”

Dune stabilization plots started in 1967

MIER site SA

CASTRO VERDE, Portugal

Great bustard

GELLAP OST/NABAOS, Namibia

OUED DLIM, Morocco

EL SALADO, Mexico
WP3. Assessment

LTEMs: PREVENTION-RESTORATION ACTIONS

Soil conservation practices

Soil erosion control

Watershed management

Forest and fire hazard management (fuel control treatments)
1. SHP Identification & engagement
2. Baseline evaluation of actions & selection of site-specific indicators
3. Integrating & weighting general and site-specific indicators
4. Data gathering
5. Integrating data and perspectives. MCDA Analysis
6. Collective integrated assessment
7. Broad dissemination

IAPro structure

Science-based suite of general (common) indicators
1. SHP Identification & engagement
2. Baseline evaluation of actions & selection of site-specific indicators
3. Integrating & weighting general and site-specific indicators
4. Data gathering
5. Integrating data and perspectives. MCDA Analysis
6. Collective integrated assessment
7. Broad dissemination

Science-based suite of general (common) indicators
Standard methods
Selected by local team
RS, where suitable
Functional approaches
Connectivity metrics
Data on (common) indicators

- Soil organic C (%)
  - Action 1: 3.5
  - Action 2: 2.5
  - Action 3: 1.5

- Plant species (#)
  - Action 1: 18
  - Action 2: 14
  - Action 3: 12

- Provisioning services
  - Action 1: 2.5
  - Action 2: 2.0
  - Action 3: 1.5

- (Unit: /ha)
  - Action 1: 3.0
  - Action 2: 2.5
  - Action 3: 2.0
  - Action 4: 1.5
Present Step5 (MCDA) results

The components for MCDA ranking of management/restoration actions

Relative weight of the indicators

Values for the indicators

Ranking of management/restoration actions
Outranking results of the actions in the duneveld based on group normalized weights for all indicators

Dune stabilization → Grazing management → Bush control → Re-vegetation

Direction of outranking: worse → better
1. SHP Identification & engagement

2. Baseline evaluation of actions & selection of site-specific indicators

3. Integrating & weighting general and site-specific indicators

4. Data gathering

5. Integrating data and perspectives, MCDA Analysis

6. Collective integrated assessment

7. Broad dissemination

Science-based suite of general (common) indicators

Social learning
Initial Evaluation by Stakeholders

| Category                           | Stakeholders
|-----------------------------------|----------------
| Post-fire shrubland               | 2.8 Very good
| Post-fire pine reforestation      | 3.3 Excellent
| Dense pine forest (natural post-fire regeneration) | 2.7 Moderate
| Thinning of dense post-fire pine forest | 4.4 Very good

Legend:
- Very bad
- Bad
- Moderate
- Very good
- Excellent
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Initial Evaluation by Stakeholders

- Post-fire shrubland
- Post-fire pine reforestation
- Dense pine forest (natural post-fire regeneration)
- Thinning of dense post-fire pine forest

Final Evaluation by Stakeholders

- Post-fire shrubland
- Post-fire pine reforestation
- Dense pine forest (natural post-fire regeneration)
- Thinning of dense post-fire pine forest

Very bad Bad Moderate Very good Excellent

2.8 3.3 2.7 4.4
1. SHP Identification & engagement

2. Baseline evaluation of actions & selection of site-specific indicators

3. Integrating & weighting general and site-specific indicators

4. Data gathering

5. Integrating data and perspectives, MCDA Analysis

6. Collective integrated assessment

7. Broad dissemination

Science-based suite of general (common) indicators
To make knowledge dissemination materials / organize exhibition based on participants’ collective wishes