Presenting PRACTICE (Prevention and Restoration Actions to Combat Desertification. An Integrated Assessment). Applying PRACTICE methodology to WOCAT

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PROJECT OBJECTIVES

The central goal of PRACTICE was to link science to society in order to share and transfer evaluation methods, knowledge and practices to combat desertification.

PRACTICE involves research teams and stakeholder platforms in 12 countries.
• Total area: 206,059.9 ha
• Inhabitants: 68016
• Settlements: 55
• Altitude: 0-1100 m asl
• Climate:
  Low zone: Thermo Mediterranean semi arid type (prec. 450 mm)
  Middle zone: Meso Mediterranean sub-humid (prec. 550-800 mm)
  Upper zone: Continental (prec. 800 mm)
Management Actions of Lagadas Site

Moderate grazing

Overgrazing

No management

Pine plantation (partial)

Pine plantation (full)

Watering point (Water trough)
PRACTICE Integrated Assessment protocol, IAPro
STEP 1. STAKEHOLDERS IDENTIFICATION
“Chain Referral”
Step 1: Stakeholder platform composition

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers</td>
<td>3</td>
</tr>
<tr>
<td>Environmental NGOs</td>
<td>5</td>
</tr>
<tr>
<td>Managers</td>
<td>5</td>
</tr>
<tr>
<td>National Government Experts</td>
<td>6</td>
</tr>
<tr>
<td>Local Government Experts</td>
<td>2</td>
</tr>
<tr>
<td>Associations</td>
<td>2</td>
</tr>
<tr>
<td>Politicians</td>
<td>3</td>
</tr>
<tr>
<td>Farmers</td>
<td>6</td>
</tr>
<tr>
<td>Educators</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
</tr>
</tbody>
</table>
Step 2: Baseline evaluation of actions and indicator selection

Semi-structured interview
In this kind of interviews it is the interviewer’s job to make the respondent feel comfortable and to feel that this is a natural conversation – not to be used as formal questionnaire, avoid the “interrogation” format

A. Establishing stakeholder knowledge on the actions.
   Please consider the different actions and rate your overall knowledge of each of them. On a scale of 0 to 5, where 0 is “I don’t know about this action” and 5 is “extremely knowledgeable,” how would you rate your knowledge of these actions?

B. Establishing the baseline personal evaluation on the actions. (The aim is to know, FOR EACH ACTION, about the stakeholder appraisal of the actions, combining both general questions and semi quantitative assessment through Likert scales)
Overall opinion on the actions
Indicators from positive and negative outcomes

- Soil conservation
- Water conservation
- Plant diversity
- Animal diversity
- Environment
- Ecosystems
- Landscape
- Goods
- **Livestock Husbandry**
- Grazing Management
- Socio-economics - Policy
- Threats

- Extensive production
- Social benefits
- Shepherd’s quality of life
- Continuation of the activity
- Harmonization with the environment
- Improvement of animal health
STEP 3. Integrating and weighting “EXPERT” & “SITE SPECIFIC” indicators

“Pack of card” method (modified):

From a list of items: A, B, C, D, E, F, G
You tell that C is the most important
and G is the least important.....
All the others are intermediate in order of importance.

Then:

item A is much more important to D
So, you add a separation using the blank card...
Step 3 Meeting - Grecce
Assessment of indicators pre- and post-discussion

Weights

Indicators

Biomass
C sequestration
Soil and Water Cons.
Plant diversity
Income
Landscape value
Grazing capacity
Infrastructure
Fire risk

pre
post
Field Work
Field measurements

Plant diversity

- Species richness (no. species/0.25m²)
  - Moderate grazing
  - Overgrazing
  - No grazing
  - Partial reforestation
  - Full reforestation

Landscape value

- Landscape value
  - Moderately Grazed
  - Overgrazed
  - Control area
  - Partially reforested
  - Fully Reforested
  - Water trough

Soil and water conservation

- Soil surface index
  - Stability
  - Infiltration
  - Nutrient cycling
  - Moderate Grazing
  - Overgrazing
  - No grazing
  - Partial reforestation
  - Full reforestation

Grazing capacity

- Grazing capacity (monthly animal units/ha/years)
  - Moderately Grazed
  - Overgrazed
  - Control area
  - Partially reforested
  - Fully Reforested
  - Water trough
STEP 5: The components for MCDA ranking
Outranking methods (ELECTRE IS)

Relative weight of the indicators

Values for the indicators

Ranking of management actions

Laboratory of Rangeland Ecology - AUTh
Lagadas’ Rangelands (Greece)

1. Moderate grazing

2. Overgrazing

3. Control
   (no management)

4. Partially reforested

5: Fully reforested

Outcome
• Best actions:
  - moderately grazed
• Second best action
  - control area
• Third best action
  - partially reforested
• Last action
  - overgrazed
  - fully reforested
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
STEP 6: Final re-evaluation of actions

1. Final re-evaluation of actions
2. Need for implementing the action in the future

Greece

South Africa
**STEP 6: Final re-evaluation of actions**

Average rating and percentage of implementation need of management action in Lagadas site.

<table>
<thead>
<tr>
<th>Actions</th>
<th>Average rating</th>
<th>% of the Stakeholders that believe in the Implementation need of the action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate Grazing</td>
<td>4,65</td>
<td>100%</td>
</tr>
<tr>
<td>Partial reforestation</td>
<td>3,25</td>
<td>80%</td>
</tr>
<tr>
<td>No grazing/ reforestation</td>
<td>3</td>
<td>70%</td>
</tr>
<tr>
<td>Full reforestation</td>
<td>2,05</td>
<td>15%</td>
</tr>
<tr>
<td>Overgrazing</td>
<td>1,15</td>
<td>10%</td>
</tr>
</tbody>
</table>

Comparison of average rating of management actions in Lagadas site by the stakeholders between the two phases of PRACTICE IAPro Protocol (STEP 2 and STEP6). (Grades are between 1 and 5, where 1 means a very bad and 5 means an excellent action. The numbers in brackets at the top of the figure show the stakeholders included in the results).
Applied PRACTICE results into WOCAT

WOCAT’s mission is to support innovation and decision-making processes in sustainable land management, particularly in connection with soil and water conservation (SWC).

This is done by:
- connecting stakeholders,
- analysing and synthesising experiences,
- enhancing capacity and knowledge,
- developing and applying standardized tools for documenting, monitoring, evaluating, sharing and using knowledge.

✓ at the field level, including agricultural advisors, project implementers, land users,
✓ at the (sub-)national level, including planners, project designers, decision makers, researchers,
✓ at the regional and global levels, including international programme planners, donors.
Applying PRACTICE results into WOCAT

Partial reforestation with pines in conjunction with prohibition of grazing by domestic animals.

greece -”muskos” indigenous to greece

Classification

Land use problems: Land degradation issues resulted in loss of land due to desertification. Since desertification is generally open range-based pastoral systems, over-irrigation towards the adjacent rivers leads to soil degradation issues caused by overgrazing. Owners pastures are usually burned to clear land. Overgrazing, deforestation, and desertification are long-term effects of desertification.

Environment

Natural Environment

<table>
<thead>
<tr>
<th>Environment</th>
<th>Natural Environment</th>
<th>Land Cover</th>
<th>Single (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation</td>
<td>Native vegetation</td>
<td>Indigenous</td>
<td>32.19%</td>
</tr>
</tbody>
</table>

Implementation activities, inputs and costs

Eradication activities

- Mainstream non-conventional activities
- Non-conventional activities

Assessment

- Impact on the project
- Impact on the environment

Concluding statements

Strengths and weaknesses: Weaknesses and - how to overcome:
CONCLUSIONS

1. The implementation of the practice assessment protocol, and the final outranking of the actions, can support the community decision when several mitigation/restoration options are available.

2. The assessment protocol builds an environment for knowledge exchange and for learning, facilitating not only the selection but also the adoption of practices suitable for the community. Evaluation improves by linking scientific and local knowledge.

3. Practice methodology provides an excellent tool for analysing and evaluating sustainable land management actions and provides all the necessary information for preparing the two major WOCAT questionnaires (the technology and approach).
Thanks for your attention!