Participatory decision making in environmental management.
Lessons from sustainable land management in drylands

Joris de Vente, Mark Reed, Lindsay Stringer, Sandra Valente, Jens Newig

CSIC

Contents

1. Introduction

Adapted from Mark Reed

Stakeholder participation

Why engage stakeholders?

Participation is increasingly embedded in policy for normative & pragmatic reasons:

- *A democratic right (e.g. Aarhus Convention)*
- *Higher quality and more durable decisions*

Stakeholder participation

Challenges and disillusionment

- ✓ Empowering marginalised may interact with existing power structures to cause unintended consequences (conflicts)
- ✓ Group dynamics may create “dysfunctional consensus”
- ✓ Consultation fatigue as poorly run processes fail to deliver change

Stakeholder participation

Evidence for claims of participation?

Few claims have been tested, but there is firm evidence that effective participation can enhance:

- ✓ *Quality of decisions: due to more comprehensive information inputs*
- ✓ *Durability of decisions: due to stakeholder buy-in*

But, these are highly dependant on ***participant selection*** and the ***quality of the process*** leading to them.

Participant selection

Why stakeholder analysis?

1. We all have interests
2. We have a stake in the things that interest us (e.g. what happens to a landscape you walk in)
3. By holding an interest, we hold a stake: we are stakeholders

Why stakeholder analysis?

1. But without power…
2. We can never drive our points/stakes home and we will never influence the decisions that affect us

✓ To affect change, we need interest and power

Key questions relevant to stakeholder analysis:

- ✓ Who are the interested parties?
- ✓ Who has the power to influence what happens?
- ✓ How do these parties interact?
- ✓ How could they work more effectively together?

What is stakeholder analysis?

A process that:

1. ***defines*** aspects of a social and natural phenomenon affected by a decision or action
2. ***identifies*** individuals, groups and organisations who are affected by or can affect those parts of the phenomenon
3. ***prioritises*** these individuals and groups for involvement in the decision-making process

Reed et al. (2009)

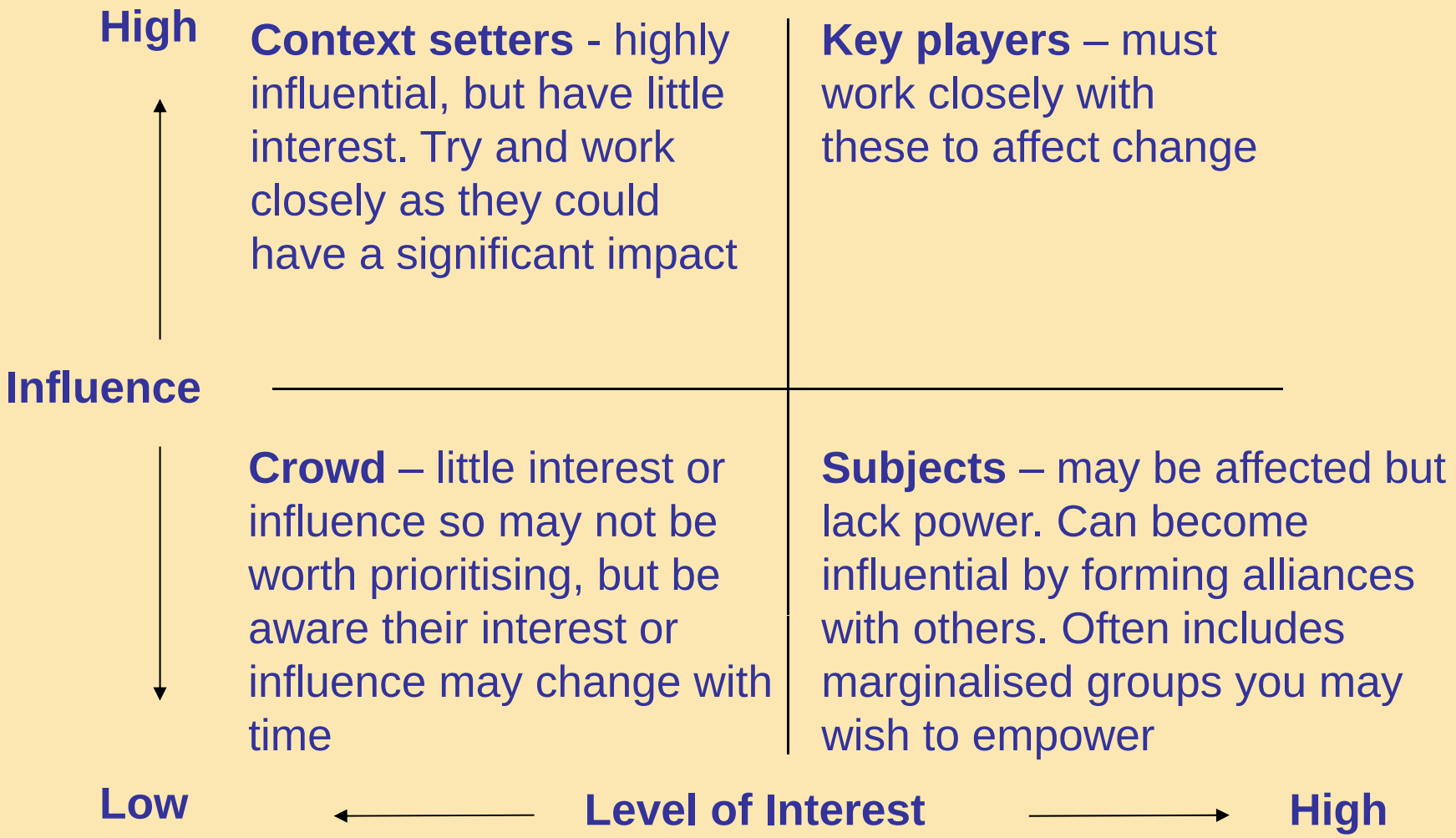
What is stakeholder analysis?

Three groups of methods for stakeholder analysis:

- ✓ Identifying stakeholders
- ✓ Differentiating between and categorising stakeholders
- ✓ Investigating relationships between stakeholders

Categorising stakeholders

Interest/Influence Matrices



2. Case study DESIRE project:

A participatory approach towards sustainable land management in the Guadalentín basin (Spain)

SIXTH FRAMEWORK PROGRAMME

Objectives

DESIRE: a global initiative to combat desertification
www.desire-his.eu

- ✓ **Combine local knowledge and science to select feasible, effective and socially accepted SLM options**
- ✓ **Facilitate mutual learning between stakeholder groups to achieve:**
  - *Awareness and understanding of causes and effects of degradation and SLM*
  - *Ownership over SLM options*
- ✓ **Monitor impacts of selected SLM and demonstrate effectiveness and feasibility to strengthen social acceptance**

Methodological framework

Step 1: Identify main land degradation problems and existing or potential solutions (*workshop 1*)

Step 2: First assessment of the existing and potential solutions (*questionnaires*)

Step 3: Selection of SLM options to be implemented in the study site (*workshop 2 with participatory MCA*)

Step 4: Field implementation and monitoring of SLM options

Step 5: Evaluation and selection of SLM options based on monitoring results (*workshop 3 based on a participatory MCA*)

(Schwilch et al.,2009 Stringer et al., 2013)

Step 1: Main problems and potential solutions

Objectives:

- ✓ Mutual learning
- ✓ Identify main problems, causes and effects of land degradation
- ✓ Identify existing and potential solutions for SLM
- ✓ Shortlist promising solutions for further assessment

24 participants

- ✓ 29% farmers
- ✓ 29% governmental (local and regional)
- ✓ 12% NGO (incl. farmer organisations)
- ✓ 33% multi-disciplinary scientists

Step 1: Main problems and potential solutions

Brainstorming exercises

- *Problem identification*
- *Potential solutions*
- *External factors (markets)*
- *Stakeholder relationships*

✓ 19 identified SLM options

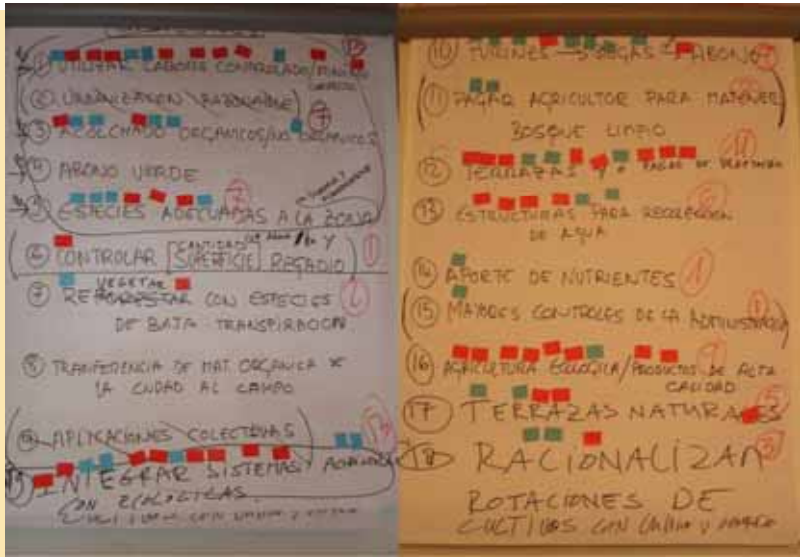
CSIC

SIXTH FRAMEWORK PROGRAMME

Step 1: Main problems and potential solutions

Voting to make a shortlist of SLM for further assessment

	SLM option	*Farmers*	*Others*	*Total*
1	Minimum and/or correct tillage	4	9	**13**
2	Integration of agricultural and ecological systems	5	8	**13**
3	Terraces and vegetation strips	3	8	**11**
4	Ecological agriculture/high quality products	1	8	**9**
5	Liquid manure->biogas-> fertilizer	7	2	**9**
6	Organic mulch	5	2	**7**
7	Economically and agronomic adapted species	4	3	**7**
8	Water harvesting structures	2	4	**6**
9	'Natural terraces'	2	3	**5**
10	Rationalize crop rotations with livestock	2	1	**3**



Step 1: Main problems and potential solutions

SLM strategy:

	Objective	**Measure (*what?*)**	**Approach (*how?*)**	**Who?**
1	*Increase infiltration and soil water content*	Minimum tillage	Information, promotion and demonstration	All farmers
		Water harvesting structures	Demonstration, information and subsidies	Where sufficient water inflow available
2	*Reduce runoff and erosion*	Terraces and vegetation strips	Information and subsidies	All farmers on 'steep' slopes
		Mulching	Demonstration and information	All farmers
		'Mosaic landscape'	Spatial planning, enforcement, subsidies	Regional approach required
3	*Increase nutrient content in the soil*	Liquid manure> biogas>fertilizer	Demonstration and testing	near pig farms
		Green manure	Demonstration and testing	All farmers

CSIC

SIXTH FRAMEWORK PROGRAMME

Step 2: Assessment of potential solutions

Objectives:

- ✓ Describe and evaluate the selected SLM options in detail
- ✓ Provide high-quality input information for further selection in step 3

- ➢ Questionnaires based on consultation of specialists

CSIC

SIXTH FRAMEWORK PROGRAMME

Step 3: Multi-criteria decision making for SLM

Objectives:

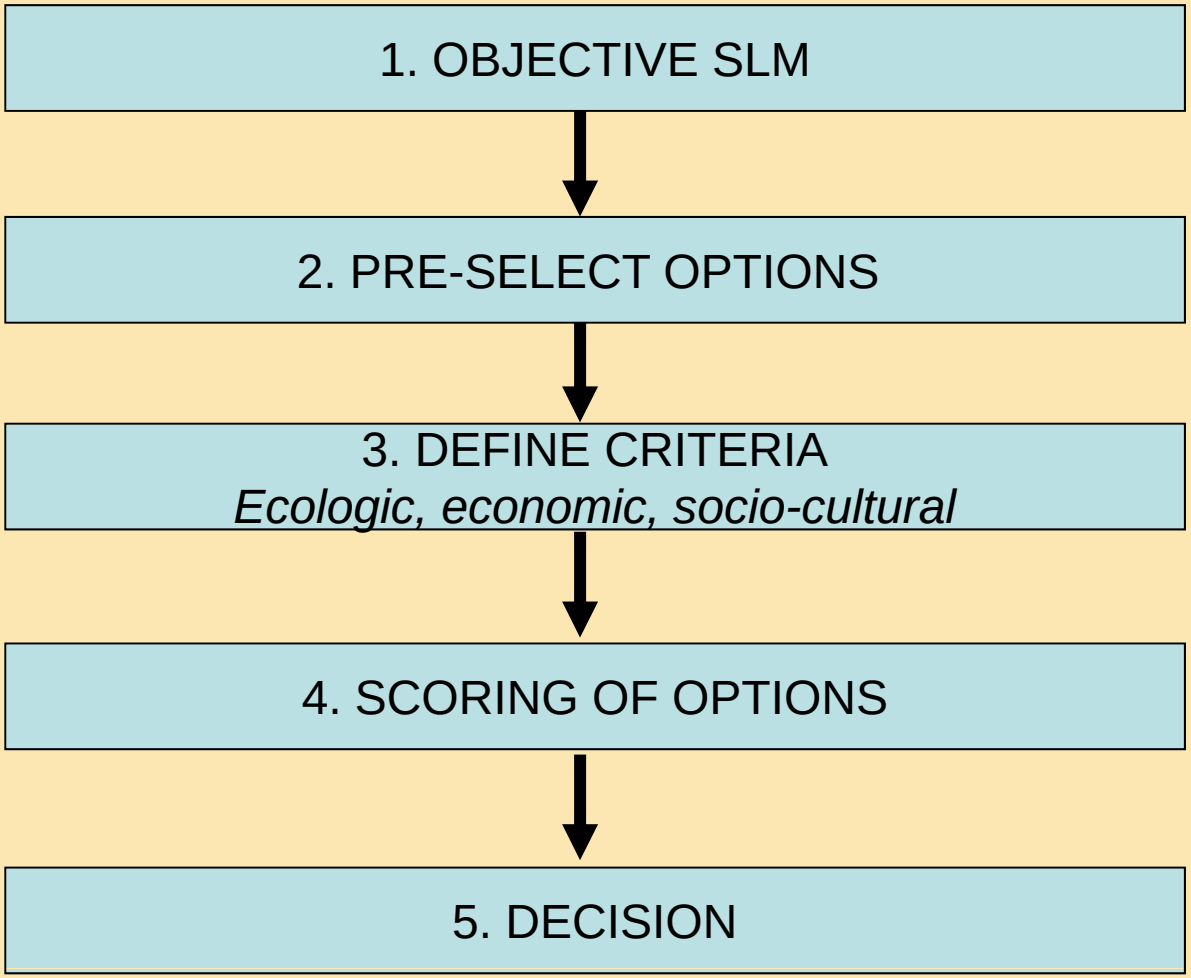
- ✓ Mutual learning
- ✓ Evaluate and select SLM options for test implementation

15 participants

- ✓ 50% farmers
- ✓ 20% governmental (local and regional)
- ✓ 30% multi-disciplinary scientists

Step 3: Multi-criteria decision making for SLM

Exercise overview



Step 3: Multi-criteria decision making for SLM

Total 20 evaluation criteria.

Economic

- ✓ Reduce production cost and effort (9)
- ✓ Increase the quality of production (8)
- ✓ Increase available water (7)
- ✓ Increase the quantity of production (6)

Ecological

- ✓ Increase available water (10)
- ✓ Increase vegetation cover of the soil (8)
- ✓ Increase organic matter content of the soil (8)
- ✓ Reduce erosion (7)

Socio-cultural

- ✓ Increase the role of farmers as a protector of the rural environment (12).
- ✓ Increase knowledge/awareness of soil erosion and conservation (10).
- ✓ Increase the socio-cultural exchange between farmers. (9).
- ✓ Reduce off-site damage and risks (6).

CSIC

SIXTH FRAMEWORK PROGRAMME

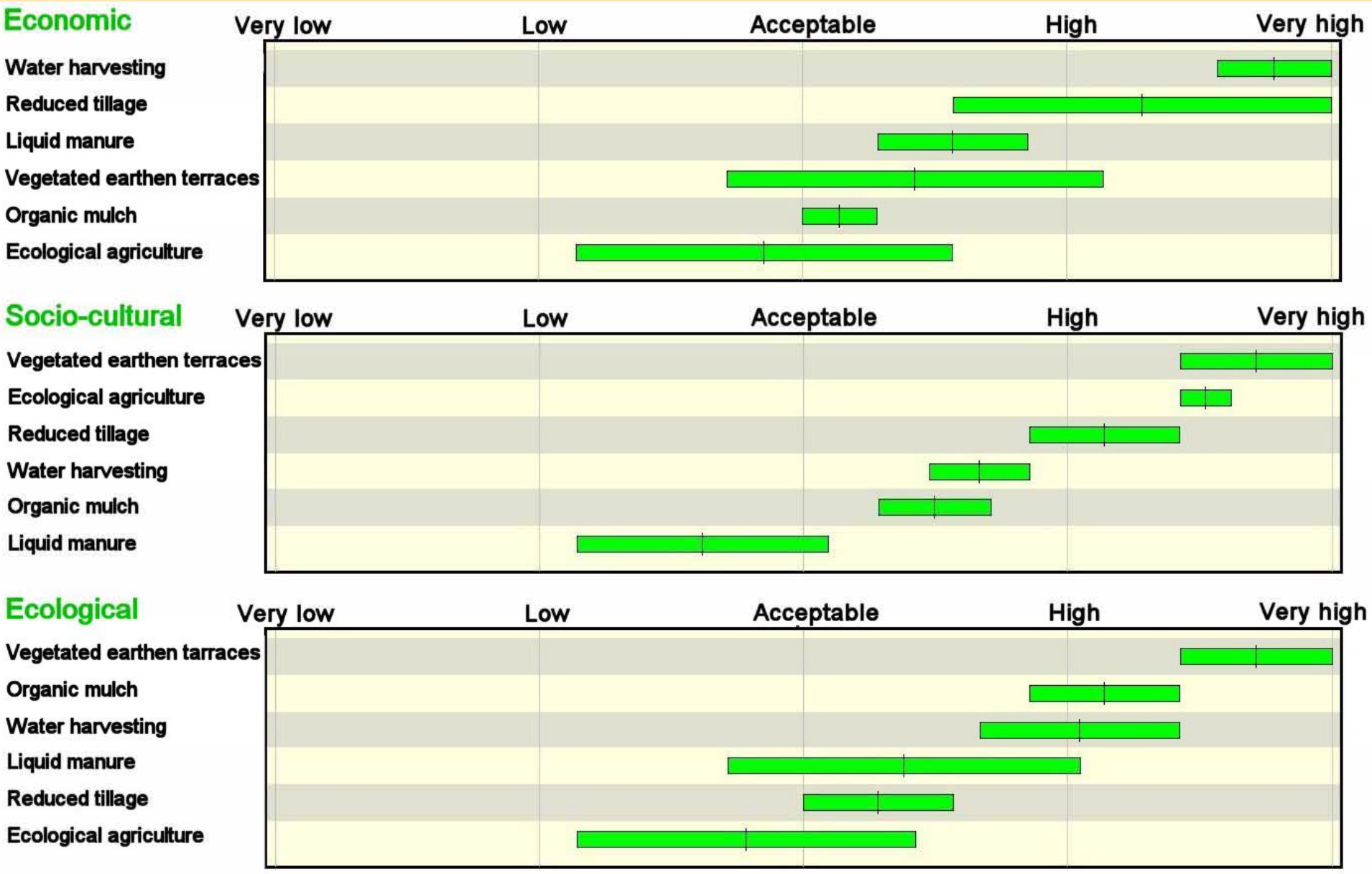
Step 3: Multi-criteria decision making for SLM

Evaluate 6 pre-selected options against 12 criteria (score 0-7)

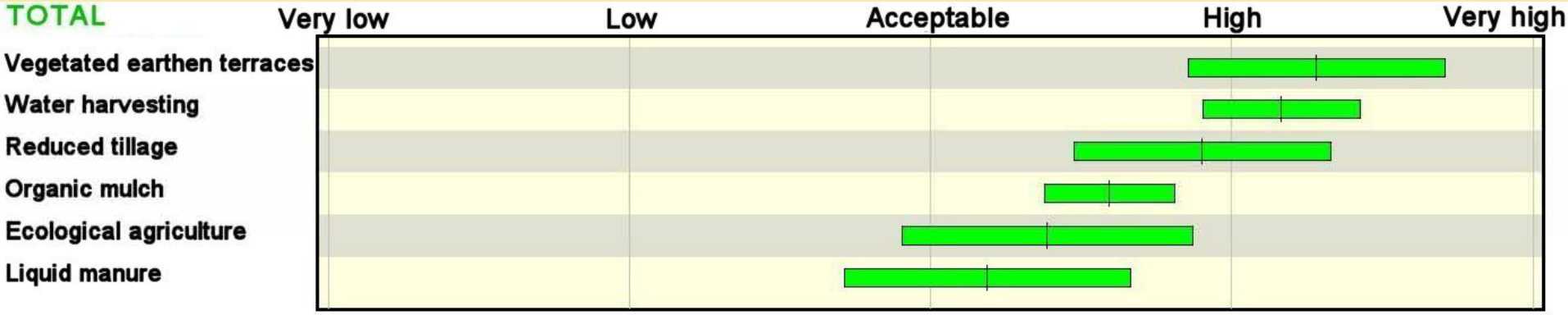
2 groups:

- ✓ Farmers
- ✓ Non farmers

Step 3: Multi-criteria decision making for SLM



Step 3: Multi-criteria decision making for SLM



CSIC

SIXTH FRAMEWORK PROGRAMME

Step 4: Implementation & monitoring

Cereal fields:

✓ Reduced tillage

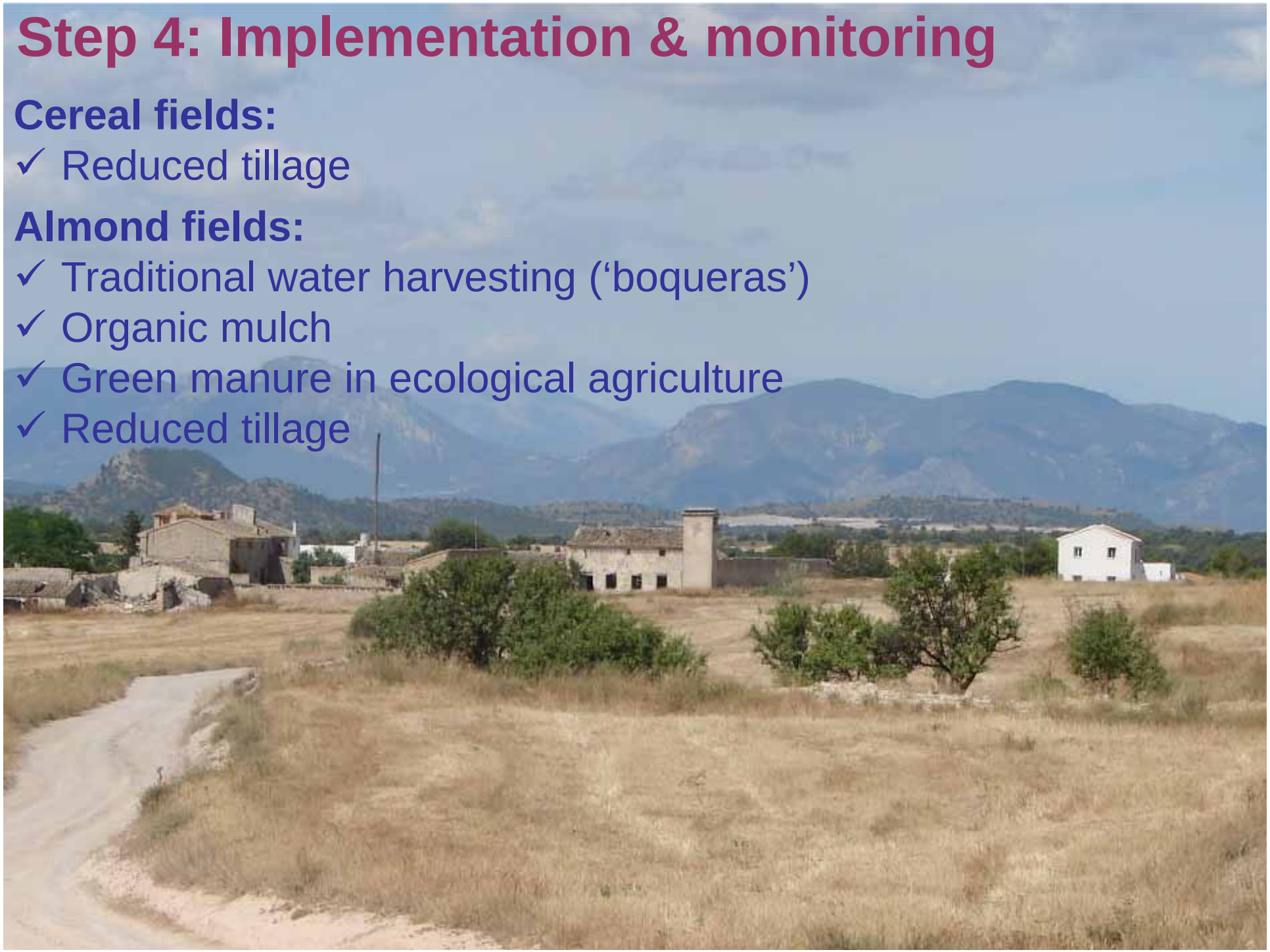
Almond fields:

✓ Traditional water harvesting (‘boqueras’)

✓ Organic mulch

✓ Green manure in ecological agriculture

✓ Reduced tillage



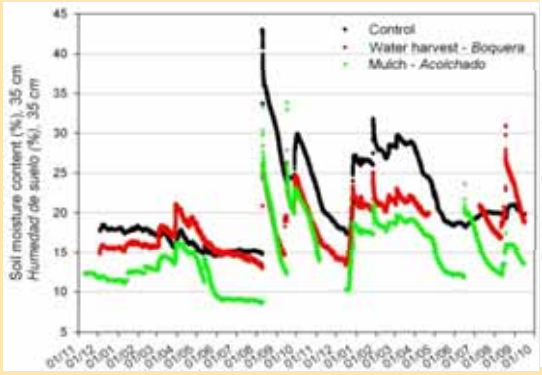

Traditional
mouldboard tillage
Reduced tillage

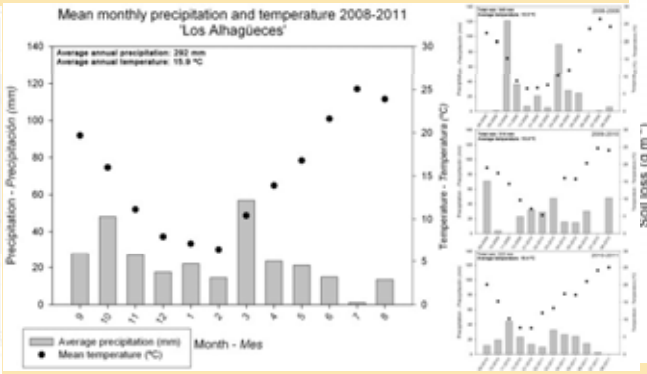

Field site A
Green manure
15m
1.5m
Control
Reduced tillage

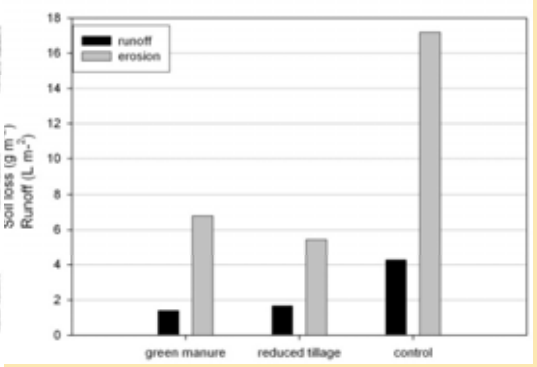
Step 4: Implementation & monitoring

Step 4: Implementation & monitoring

	Labranza reducida	Abono verde	Boquera
Criterios Ecológicos			
Erosión	*-60%*	*-60%*	*na*
Escorrentía	*-60%*	*-60%*	*na*
Secuestro carbono	*+47%*	*+47%*	*?*
Humedad	*ns*	*ns*	*+24%*
Cosecha	*ns*	*+25%*	*+74%*
Criterios económicos			
Gastos	*-50%*	*+8%*	*+291%*
Cosecha	*ns*	*+25%*	*+74%*
Beneficios	*ns*	*+27%*	*+52%*







Step 4: Implementation & monitoring

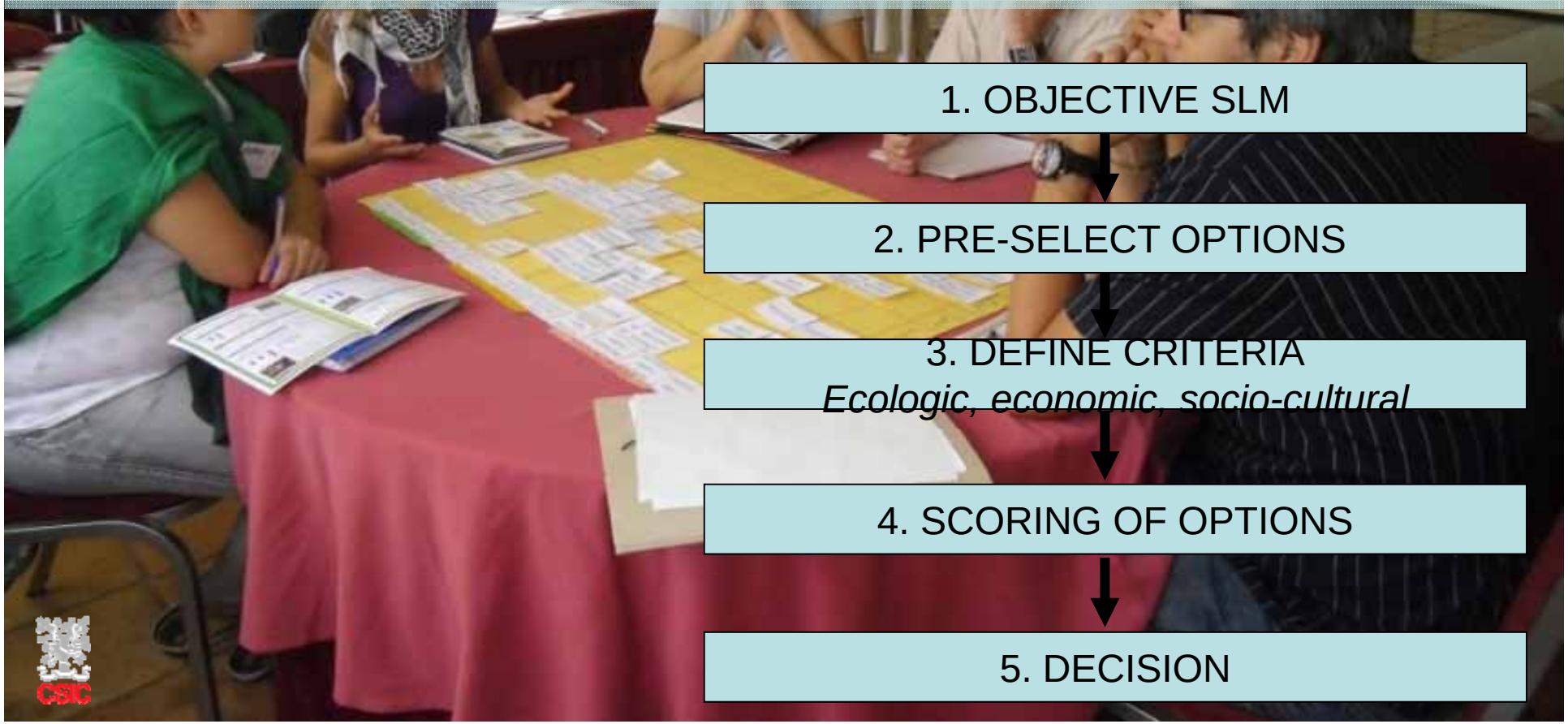
Demonstration and dissemination

- ✓ *Field demonstration day*
- ✓ *Newsletter*
- ✓ *Policy brief*
- ✓ *Photo logbook on internet*

Step 5: Evaluation and selection of SLM

Objectives:

- ✓ Mutual learning
- ✓ Evaluate and select SLM options for wider implementation
- ✓ Design a dissemination strategy



Step 5: Evaluation and selection of SLM

Rank	*Before field trials*	After field trials
1	*Traditional water harvesting (Boquera)*	Green manure in Almonds orchards
2	*Reduced tillage in Cereal and Almond fields*	Reduced tillage in Cereal and Almond fields
3	*Organic mulch to reduce water losses*	Traditional water harvesting (Boquera)
4	*Green manure in Almonds orchards*	Organic mulch to reduce water losses

CSIC

SIXTH FRAMEWORK PROGRAMME

Step 5: Evaluation and selection of SLM

How can we enable priority remediation options to be adopted? Who? When?

✓Training (farmers organizations, high-schools and universities to create awareness)
✓Demonstration activities in the field
✓Better cooperation and collaboration between different institutes
✓Economic support for implementation of SLM measures
✓Lobby and convince responsible policy makers
✓Put higher economic and social value on products that are produced in a sustainable manner
✓Link payment of agricultural subsidies to implementation effective SLM measures

➢**Communicate your results to wider group of stakeholders**

CSIC

SIXTH FRAMEWORK PROGRAMME

3. Evaluating participation:
Guiding principles for good practices

BRITISH ACADEMY

What makes stakeholder participation in environmental management work?

Involved

Introduction

Participation is increasingly embedded in science and policy (UN (Rio Convention 1992, Arhus convention 1998).

Why? Claimed benefits of participation:

✓ Environmental goals are achieved more efficiently and effectively

✓ Help to deal with conflicts, building trust and learning among stakeholders

✓ who are more likely to support and implement decisions in the long term.

➢ Uncertainty over how a process should be ***designed*** to be most effective, and which aspects are universal, for any socio-cultural ***context***.

Two paired projects

1. ECOPAG: a comparative meta-analysis of 300 case studies in environmental decision-making (Jens Newig)

2. Involved: in-depth interviews with those who led and participated in environmental management projects in Spain & Portugal & 13 dryland sites internationally (Mark Reed)

- Evaluate the claims for participation
- Assess which aspects are universal, for any socio-cultural ***context***
- Provide guidelines for how a process should be ***designed*** to be most effective

Common objectives

Assessing if and how participatory approaches:

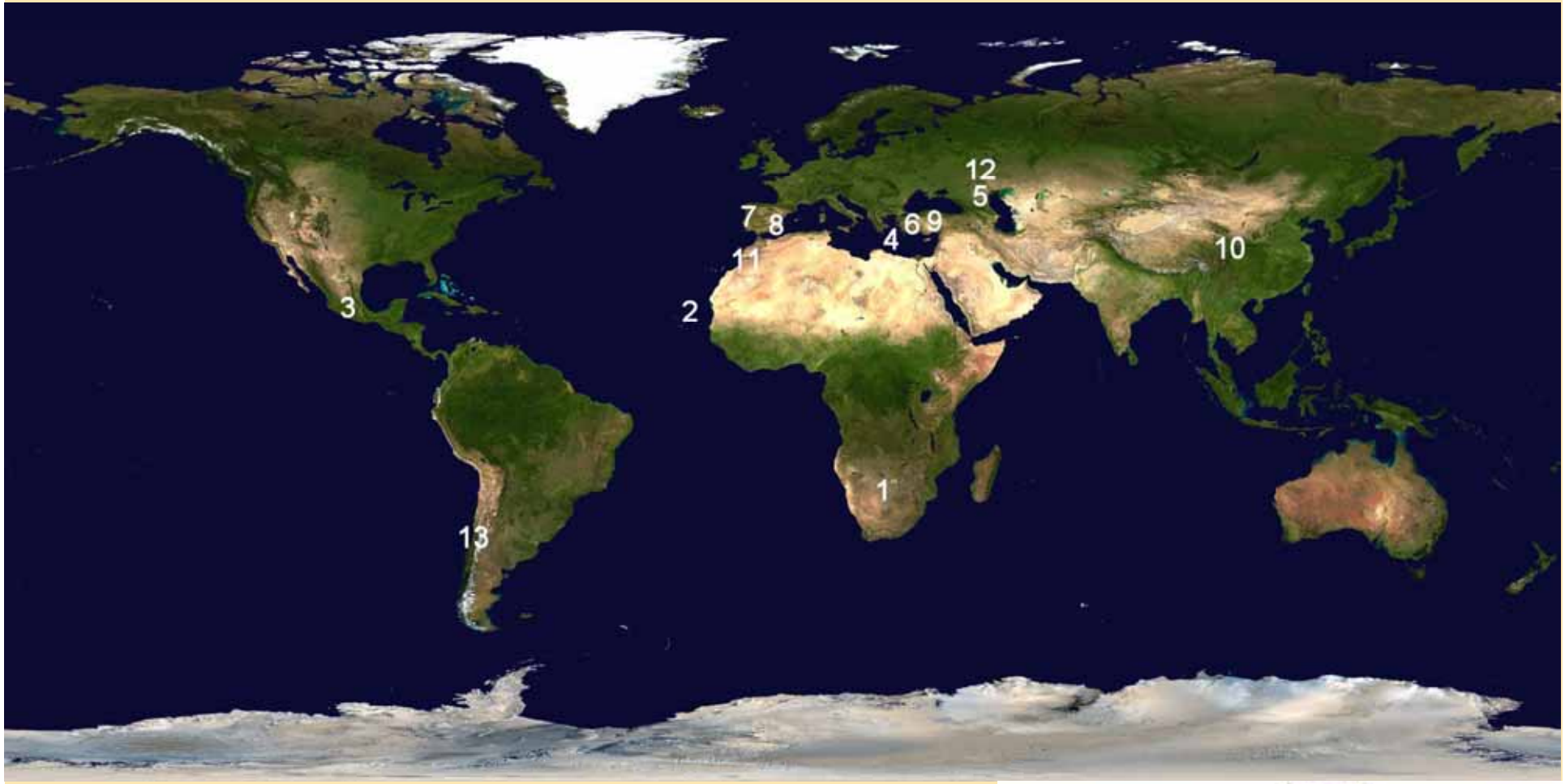
- Improve the ***quality*** of environmental decisions, facilitate their ***acceptance*** and ***implementation***, and thus achieve environmental goals more effectively
  - ➢ ***Environmental outcomes***
- Benefit participants in other ways, e.g. through ***increased learning*** and ***trust***.
  - ➢ ***Social outcomes***

Evaluating the extent to which context versus process design influences environmental and social outcomes

How?

1. Evaluate similar processes under different contexts:

- Interviews process facilitators of 13 DESIRE cases



How?

2. Evaluate different process designs under similar contexts

- Interview up-to 5 facilitators and participants of ***6 Spanish*** and ***5 Portuguese*** cases
- Large differences in design and levels of participation

How?

Semi-structured interviews:

1. Five open questions
2. Fifty-one closed questions (scores 0 to 4 or -4 to 4)

Quantitative & Qualitative evaluation

1. Correlation analysis:

- Context variables & design variables & process outcomes

2. Grounded theory analysis (Corbin & Strauss, 1990)

- Analysis to construct theoretical models from transcribed interviews

Results

1. Higher levels of participation by a heterogeneous group of stakeholders lead to ***better informed***, more ***sustainable*** and ***flexible*** solutions
2. Through ***increased trust*** and ***ownership*** over problems and solutions, decisions are more likely to be ***accepted*** and ***implemented***
3. Implementation of solutions requires participation of ***Government institutes***, which negatively correlates with ***learning*** and ***trust***
    - ***Skilled facilitation and group work***

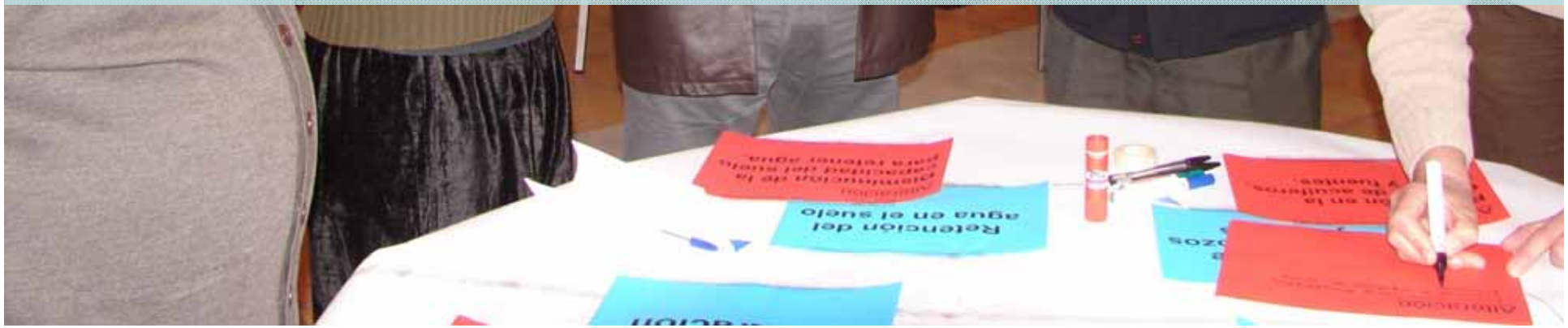
Results

1. National context has little impact on process outcomes.
2. Several local context factors were identified:
    - Personal motivation and interest to participate
    - Contributions will be acted upon
    - Power differences
3. Most important are ***participant selection,*** and ***process design***

Good practices

- ✓ **Careful selection of participants**

- ➢ Relevant stakeholders need to be represented systematically
- ➢ Investige relationships between stakeholders
  - ➢ **Stakeholder analysis**
- ➢ Include a diverse group (opinion leaders and implementers)



Good practices

- ✓ **Make participation attractive and easy**

- ➢ Clear and transparent description of the problem and of the process objectives (problem identification)
- ➢ Ambitious but realistic objectives
- ➢ Adapt methods to changing contexts e.g. Literacy
- ➢ Make clear what is in it for participants and how their contributions will be acted upon

Good practices

- ✓ **Foster trust between participants**

- ➢ Clear communication and transparency of decisions are crucial
- ➢ Build on existing relationships between participants
- ➢ Design parallel processes for high-level policy makers
- ➢ Respect and integrate local and scientific knowledge

Good practices

- ✓ **Provide participants with information and real decision making power**

Empowering stakeholders:

- ➢ Ensuring participants have the technical capability to engage effectively with the decision (*information access*)
- ➢ Ensuring participants have the power to really influence the decision (link to ongoing policy process or upcoming elections)

Good practices

- ✓ **Use professional independent facilitation and structured methods of information aggregation**
- ➢ Outcomes are far more sensitive to the manner in which it is conducted than the tools that are used
- ➢ Same tool, different facilitator = different outcome
- ➢ Skills in managing groups and difficult (conflict) situations or power imbalance
- ➢ Use variety of techniques to gather different types of information (brainstorming vs. ranking/prioritising to make choices)
- ➢ Stimulate face to face contact between participants.

Good practices

- ✓ **Promote long-term commitment**

- ➢ Participation is more than a collection of tools and methods for engaging stakeholders, its a process that is:
  - *Long-term*
  - *Developing trust as you work together*
- ➢ Stakeholder participation should be considered as early as possible and throughout the process
- ➢ Realistic economic support for implementation of solutions

Good practices

- ✓ **Adapt language, location and design to the participants**

- ➢ Bring the process to the participants (field or village meetings rather than in universities).
- ➢ Use accessible language and forms of information adapted to the education level of participants.

More information?

Scientific:

de Vente, J., Reed, M., Stringer, L.C., Valente, S., Newig, J., under review.

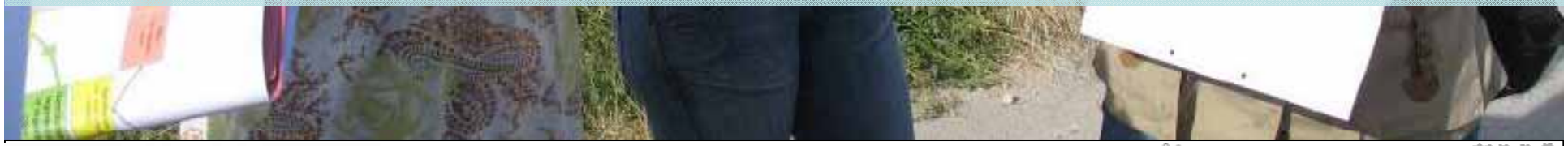
Wider outreach:

'Live Together – Decide together'

video summarizing good practices for stakeholder participation, soon available at www.sustainable-learning.org

Twitter:

@JorisdeVente @lecmsr @LindsayStringer



BRITISH ACADEMY

Thank you!

What makes stakeholder participation in environmental management work?

Involved

CSIC