

# Utilizing payments for environmental services for a sustainable management of forest resources in the north west of Tunisia : Opportunities and challenges

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- What are environmental services?
- What is PES?
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# What are environmental services?(1/2)

□ Ecosystem services:

Benefits that people get from ecosystems

□ Types of Ecosystem services:

Forests	
<b>Environmental Goods</b>	<ul style="list-style-type: none"><li>• Food</li><li>• Fresh water</li><li>• Fuel</li><li>• Fiber</li></ul>
<b>Regulating Services</b>	<ul style="list-style-type: none"><li>• Climate regulation</li><li>• Flood regulation</li><li>• Disease regulation</li><li>• Water purification</li></ul>
<b>Supporting Services</b>	<ul style="list-style-type: none"><li>• Nutrient cycling</li><li>• Soil formation</li></ul>
<b>Cultural Services</b>	<ul style="list-style-type: none"><li>• Aesthetic</li><li>• Spiritual</li><li>• Educational</li><li>• Recreational</li></ul>

# What are environmental services? (2/2)

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## □ Environmental services:

Ecosystem services that are not valued in markets. providers can produce: outsiders (beneficiaries) can benefit. Providers generally have no incentive to supply.

Forests	
<b>Regulating Services</b>	<ul style="list-style-type: none"><li>• Climate regulation</li><li>• Flood regulation</li><li>• Disease regulation</li><li>• Water purification</li></ul>
<b>Supporting Services</b>	<ul style="list-style-type: none"><li>• Nutrient cycling</li><li>• Soil formation</li></ul>
<b>Cultural Services</b>	<ul style="list-style-type: none"><li>• Aesthetic</li><li>• Spiritual</li><li>• Educational</li><li>• Recreational</li></ul>

# What is Payment for Environmental Services (PES)?

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1. A voluntary transaction in which
2. A well defined environmental service (ES) or a form of land use likely to secure that service
3. Is bought by at least by one ES **buyer**
4. From a minimum of one ES **provider**
5. If and only if the provider continues to supply that service

(Sven Wunder)

# Examples of PES programs

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- ❑ Payments for Environmental Services (Huetar Norte, Costa Rica)
- ❑ Payments for Environmental Services (Virilla, Costa Rica)
- ❑ PROFAFOR project (Ecuador)
- ❑ Pimampiro (Imbabura Province, Ecuador)
- ❑ Noel Kempff Mercado Climate Action Project (Bolivia)
- ❑ Plantar carbon project (Minas Gerais State, Brazil)
- ❑ Peugeot Carbon Sink Project (Mato Grosso State, Brazil)
- ❑ Bananal project (Tocantins State, Brazil)

# Problem statement

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- Can the PES approach based on compensation contribute to reach a **sustainable** management of forest resources in the north west of Tunisia?
- This raises the question of what is the appropriate PES mechanism adapted in North west Tunisian context.

# Objective

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A good understanding of the potential linkages between PES and Poverty reduction leads to answer the following question:

- How can PES programs be designed to improve the socio-economic conditions of population in the forest areas and to improve natural resource management and conservation practices in these areas( N.W Tunisia)?

# Hypotheses/

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- ❑ The only logic of the **compensation** has few chances to end in sustainable results profits. It would be necessary to move from a logic of compensation in a logic of **investment** in the forest areas in order to improve the socio-economic conditions of population and consequently the SMFR.??????
- ❑ Once service users stop to pay , Sustainable resource management objectives will not be reached ???
- ❑ This may be leads to design PES ( adapted to Tunisian context) and reinsert the instrument of PES in the orbit of the rural/forest development

# Methodology

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## **1. Feasibility studies**

**Step 1: What are the environmental services?**

**Step 2: Who is involved?**

**Step 3: at what price?**

## **2. Setting up the payment mechanism (Simulation)**

# Methodology

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## □ Step 1

→ **surveys .**

### **-Requirements:**

**1.1 Being able to establish a serious cause and effect relationship between human activity and environmental problems (can not generalize « deforestation= reduction of water services, depends on local circumstances, etc..)**

**1.2 Ensure that there is a threat to the environmental service.**

# Methodology

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## □ STEP 2 :

**Legal study:** Who will sign the contract for the communities? The communities themselves? they possess property rights?

### **-Requirements:**

**2.1 Providers of environmental services have clear rights to exclude the property holder for environmental services (not necessarily land titles).**

**2.2 A lack of interest, finding a legal entity able of signing the contract for the PSE sellers**

# Methodology

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## □ Step 3

- **Market investigation/Survey** (potential buyers),
  - **Who benefits from ES?**,
  - **Who could benefit from improved water services (for example)?**
  - **How much degradation of water services costs for potential buyers?**
- **Survey on the livelihoods** of people in priority areas to establish opportunity costs of abandoning the destructive practices . **Income levels, type of agricultural production, etc..**

# Methodology

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-Estimated cost of developing conservative practices and investment in alternative sustainable income generation

-Requirements:

3.1 Willingness to pay  $\geq$  opportunity cost

# Conclusion

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- Although PES programs are not designed as poverty reduction programs, our work tries to look for the appropriate PES mechanism which could be implemented in the Tunisian context ( including linkages between poverty reduction and SMFR)
- Needs of capacity building to achieve this research study:
  - Costs: what methods are appropriate for estimating the costs (transactions ,cost opportunity,...)
  - Methods of making the baseline, scenarios,...
  - Trainings about appropriate Models that can be used



Thank you for your  
attention