Optimal design of climate change policies through the EU's rural development policy

OSCAR

Optimal Strategies for Climate change Action in Rural areas

Dr Kathy Lewis

University of Hertfordshire
UH

OSCAR – *Project Administration*

- 12 month contract, finishes 21st December 2012.
- Led by the University of Hertfordshire, UK in collaboration with partners from France and Poland.
- Various dissemination activities undertaken.
- Website:
  http://sitem.herts.ac.uk/aeru/oscar/index.htm

University of
Hertfordshire, UK

Wroclaw University,
Poland

SOLAGRO,
France

OSCAR – *Project aims and objectives*

To develop guidance materials to support Member States develop national RDPs that optimally address climate change objectives post-2013.

To enable the identification of optimal strategies for climate change mitigation and adaptation.

OSCAR – *Basic approach*

This has been achieved by describing each RDP operation in terms of its **MAPP criteria**:

Mitigation potential via the quantification of the change in GHG emissions it causes.

Adaptive Capacity impact via a description of its potential to affect the ability of an ecosystem service to adapt under climate change stresses.

Productivity impact via the affect it will have on agricultural production within a specified area.

Practicality assessment via the identification of moderating factors which will influence the climate change benefits realised.

Describing Mitigation Potential

1. Identification of factors and relevant data that affect climate change relevant emissions.

2. Combination of this data using GIS to generate Regional Variation Categories (RVCs) and classes.

3. The identification of existing and future RPD operations.

4. Each RDP operation is described in terms of how it changes a baseline scenario with respect to activities and issues.

5. Determination of GHG emission factors for various activities and features for each RVC via mathematical modelling

6. Based on these changes and the appropriate emission factor the change in GHG emissions is determined for each operation in each RVC.

Describing Adaptive Capacity

- Ecosystem services (ESSs) approach:

  - Identification of all the climate change relevant factors and issues that may affect the ESS ability to perform.

  - For each RDP operation an estimation of how it may affect those factors and issues for each ESS is identified.

  - This is then weighted according to the RVC. e.g. Highly vulnerable region is likely to benefit more than an area not at risk of decreased ESS function.

Describing Productivity

• Complex issue. Approach adopted needed to be pragmatic yet effective and transparent. OSCAR uses a measure of production i.e. yield rather than productivity.

• Based on an estimation of the change in an enterprise yield (positive of negative) caused by the implementation of a particular operation.

• The estimate is weighted according to the RVC productivity class of the land affected and is normalised based upon a typical gross margin for that enterprise.

• Data derived from published literature, case studies and other research projects.

Describing Practicality

- No quantitative data analysis but simply textual information describing what must be done to achieve maximum climate change benefits.

- However, the overall climate change benefits or disbenefits of an operation may not be realised if appropriate training, education and support measures are not provided. Therefore the benefits are weighted according to the availability of these associated measures and their importance for uptake.

Regional benefits:

The benefits / disbenefits to climate change of introducing a particular RDP operation is then scaled up according to:

- The proportion of a field it affects (e.g. edge of field or whole field).
- Regional area (down to NUTS3).
- Regional uptake as a percentage.

Making use of this information

Project aim was to develop a user manual to help optimise national RDPs to deliver climate change benefits alongside the core objective of rural development.

However:

• Benefits & disadvantages of any particular RDP measure/operation is highly variable with the locality. You cannot generalise.

• Huge data manipulation process that does not translate into a manual / checklist easily.

• The production of a hardcopy manual almost impossible.

Making use of this information (2)

So:

- Software has been developed to enable the data to be easily accessed and utilised.

- Manual aims to guide the user through the development of climate friendly RDPs in a general manner.

- Software also provides the greatest flexibility in how the data is used. Enables other user tools to be incorporated such as:

  - Development of MAC curves for mitigation & adaptation.

  - Provide management routines for saving & recalling data.

  - Allows certain customisation via user-settings.

  - Incorporates a video help system.

  - Provide a means for updating data via the internet.

Support activities:

- Literature review to support the identification of base data and to ensure that existing R&D is not repeated.

- Case studies in Poland, France, UK to:

      (a) Consult 'on the ground';

      (b) Help identify data regarding the economic, productivity impacts and practicality issues;

      (c) Provide sites/regions for software & manual testing;

      (d) Provide a reality check.

- Consultation exercise with a range of stakeholders including MAs. Two phases: (1) to identify issues in developing national RD Programmes & what they would like the project to deliver, & (2) to receive feedback on the software and manual.

To conclude:

- Project was demanding and ambitious – calculating GHG emissions for an RDP operation is complex.

- Flexible and user-friendly software has been developed to identify the most appropriate RDP operations in a given region for mitigating climate change and enhancing adaptive capacity.

- It is accompanied by a manual which guides the user through the process.

- It has been based on a large number of datasets developed by the research team and other researchers across the EU, literature sourced data, in-house mathematical modelling and several case studies.

- Software can be downloaded from the OSCAR website.

Thank you…