CARBOMONT RESEARCH AREA DECISION WORKSHOPS:

Land Use Changes in Response to Three Policy Scenarios

Introduction

Carbomont is a EU research programme investigating the cycling of Carbon in relation to different types of mountain land use. There are a range of participating mountain sites across Europe. One of the work packages is concerned with relating patterns of land use to EU rural land use policies., so that the possible effects of policies on mountain landscapes can be assessed and used for modelling the impacts on carbon cycling. The approach being adopted for this work package is to define three contrasting policy scenarios and use a small panel of stakeholders at each site to compare the likely effects of the scenarios on the current patterns of land use in a decision workshop setting.

Aims

To predict the impacts of defined policy scenarios on the pattern of land use in the research area over a period of 20 years by:

- assessing, the possible redistribution of land between the sectors of agriculture, forestry, recreation, conservation, hunting, settlement and unmanaged (abandoned)
- predicting the possible redistribution of types of management within each sector
- quantify the range of views within the stakeholder group

Results will be used in conjunction with current vegetation maps to predict the landscape changes that could follow each scenario. These predictions in turn will provide a basis for modelling changes in carbon cycling in the research areas

Workshop format

The three policy scenarios to be considered can be summarised as:

1. continuation of the status quo of gradual reduction of farm price support and of the planning restrictions on rural diversification
2. rapid reduction of farm price support and but only gradual reductions in planning restrictions on rural diversification
3. rapid implementation of rural diversification with gradual reductions in price support

There are three stages to the decision workshop:

1. Stakeholders are asked to discuss the possible implications of the scenarios for their region and then assess likely effects on the selected research area.
2. Each participant will judge what proportion of each sector (such as agriculture) might switch into another sector (such as forestry) under each scenario.
3. Then they will consider the possible changes in management that might occur within sectors (such as from arable to pasture).

Stakeholders will vary from site to site depending on the main types of land use, but could include ecologists, agriculturists, environmental economists, planners, foresters, recreation and conservation managers and hunters. There should be not more than about 15 stakeholders at each workshop to provide good levels of interaction and discussion. Each workshop will have a local organiser, a facilitator and minute taker.

The workshops are expected to take a day, and a preliminary trail run will be held at each site with local Carbomont scientists beforehand to iron out any possible problems.

The workshops should be held in a comfortable room and in a relaxed and informal atmosphere. Coffee and meals should be provided and if appropriate the stakeholders offered their travel and other incidental expenses. They will mainly use a series of forms to record their decisions but there will also be electronic voting keypads to easily compare results with a computer screen and computer projector (beamer).

Information given to stakeholders

Stakeholders will be given a general introduction to the workshops explaining the aims and a map of the research area showing main land uses. Some general land use and economic statistics of the area should be provided but not in great detail. Information on European and national trends in agriculture, employment, tourism etc will also be provided for about the last 20 years.

The three policy scenarios will be outlined in a separate paper given to stakeholders in advance of the workshop. Definitions of the land use sectors applicable at the site will be provided, as will the main land management options within each sector. There will also be a list of participating stakeholders and their interests in the research area or region.

The sequence of working will be the same at each research site, as will the scenarios. However, the regional implications of the scenarios will vary as will the land use sectors and the management options within sectors. These will be outlined for each site in advance by the local CARBOMONT workshop organiser and the stakeholders will have a chance to comment before making any estimates of the likely effects of each scenario.

Stage 1. OPEN DISCUSSION OF SCENARIOS

Aim is to get a clearer picture of each scenario as it would apply to our area. What are the likely implications of the scenarios at local level on forestry, agriculture, demography, recreation and tourism, hunting, rural economy, subsidies etc. At the end of the discussion the main conclusions should be listed.

Stage 2. EFFECTS OF SCENARIOS ON REDISTRIBUTION OF LAND USE BETWEEN SECTORS

LAND USE SECTORS

Most land uses can be allocated to one of the following major sectors:
Agriculture: arable, pastures and hay meadows, extensive grazing
Forestry: plantation commercial forests, multi use forests, natural regeneration forests
Recreation: land used for skiing, walking, horse riding and other recreation activities
Conservation: land managed for nature or landscape conservation
Hunting: land managed for bird or mammal hunting or for sport fishing
Settlement: land used for domestic accomodation, commercial use (including tourist accomodation) and second homes
Abandoned: ground with no formal management)
Other uses: land used for wind farms, roads, or any other purpose not included above

2.1 For each scenario assess the likely switching of land use between sectors (e.g. proportion of agricultural land switching to forestry) Consider only the likely losses. Possible gains will be estimated from other sectors.

First estimate the proportion of the sector that might be subject to change (%)

2.2 Secondly allocate the loss to other sectors.

Identify the sector to which reallocation is most likely. Score it 100. Then rank the likelihood of changes into other sectors relative to the most likely on a scale 0-100 where 0 is never going to happen and 100 is most likely. It is possible for more than one sector to score 100 if they have a similar likelihood. There must always be one sector that scores 100

***Example**: Site Cairngorms, Scenario, status quo*

Proportion of Agricultural Sector likely to change judged to be 10%
Reallocation to other sectors: Forestry 100, Recreation 100, Conservation 15, Hunting 25, Settlement 2 Abandonment 40 Other 0

1. Loss (%)		2. Re-allocated Sector (likelihood score 0-10)						
Sector	**(% loss)**	**Forestry**	**Recreation**	**Conservation**	**Hunting**	**Settlement**	**Abandonment**	**Other**
Agriculture Status quo	**10%**	**100**	**100**	**15**	**25**	**7**	**40**	**0**

2.2.1. AGRICULTURAL SECTOR

1.Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	**Agriculture**	**Forestry**	**Recreation**	**Conservation**	**Hunting**	**Settlement**	**Abandonment**	**Other (list)**
Agriculture: Status quo		-							
Agriculture: Reduce price support		-							
Agriculture: Rural diversification		-							

2.2.2 FORESTRY SECTOR

1.Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Forestry: Status quo			-						
Forestry: Reduce price support			-						
Forestry: Rural diversification			-						

2.2.3 RECREATION SECTOR

1.Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Recreation: Status quo				-					
Recreation: Reduce price support				-					
Recreation: Rural diversification				-					

2.2.4 CONSERVATION SECTOR

1.Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Conservation Status quo					-				
Conservation Reduce price support					-				
Conservation Rural diversification					-				

2.2.5 HUNTING SECTOR

1. Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Hunting: Status quo						-			
Hunting: Reduce price support						-			
Hunting: Rural diversification						-			

2.2.6 SETTLEMENT SECTOR

1. Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Settlement: Status quo							-		
Settlement: Reduce price support							-		
Settlement: Rural diversification							-		

2.2.7 ABANDONED LAND

1. Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Abandonment Status quo								-	
Abandonment: Reduce price support								-	
Abandonment: Rural diversification								-	

2.2.8 OTHER LAND USES (e.g. energy?)

1.Change		2. Re-allocated Sector (likelihood score 0-100)							
	(%)	Agriculture	Forestry	Recreation	Conservation	Hunting	Settlement	Abandonment	Other (list)
Other: Status quo									-
Other: Reduce price support									-
Other: Rural diversification									-

2.3 Discussion of scores.

Use voting keypads linked to a computer projector to compare the range of scores. After discussion scores can be revised on your sheets if your assessment has changed. The keypads have a range of 1-10. Input scores to the nearest 10% as below: Revised scores are input onto score sheets in red ink. Note that the calculation of overall scores will be done from the sheets not the computer results.

Keypad	Score (range)
1	0 - 10% (very unlikely)
2	11 - 20%
3	21 - 30%
4	31 - 40%
5	41 - 50%
6	51 - 60%
7	61 - 70%
8	71 - 80%
9	81 - 90%
10	91 -100% (most likely)

Stage 3. EFFECTS OF THE SCENARIOS ON LAND USE WITHIN SECTORS

For each scenario assess the likely switching of land use within each sector (e.g. proportion of arable land switching to pasture). Ignore any land that has switched to another sector in Stage 1 but bear in mind any land that may have been gained from another sector

First estimate for each use the proportion that might be switched to another type of use (%)

Secondly allocate the changed proportion to other uses. Identify the new use to which change is most likely. Score it 100. Then rank the likelihood of changes into other uses relative to the most likely on a scale 0-100 (0 is never going to happen and 100 is most likely). It is possible for all uses to score 100 if they have a similar likelihood. There must always be one new use that scores 100 unless you anticipate no change between sectors.

Example: *Site Cairngorms, Scenario 2 (Reduce farm prices)*

Arable land switching use 30%, most likely change, pasture and meadow (100 each) extensive grazings unlikely (0)

Original use	% change	Arable	Pasture	Meadow	Extensive grazings	Other
Arable Reduce prices	30%	-	100	100	0	0

3.1 Agricultural sector

Definitions:
Arable: ***ground ploughed for crops***
Intensive pasture**: pasture recently or regularly improved by ploughing and seeding within last five years**
Permanent pasture**: pasture not seeded within last five years**
Extensive grazings **: usually unenclosed and unimproved grazings**
Farm woodland**: woods planted mainly for shelter or amenity , but sometimes with potential for commercial harvesting**
Set aside**: mainly arable land taken out of cropping in return for subsidies**
Abandoned**: agricultural land not in current use**
Hunting**: agricultural land used mainly for hunting**

Original use	*% loss*	*Arable*	*Intensive Pasture*	*Permanent Pasture*	*Extensive grazings*	*Farm woodland*	*Set aside*	*Abandonment*	*Hunting*	Other?
Arable *Status quo*		-								
Arable *Reduce prices*		-								
Arable *Rural diversification*		-								

3.6 Accomodation and commercial sector

Definitions
***Domestic accomodation*: accomodation used by people living locally**
***Tourist accomodation*: tourist accomodation and second homes of people based elsewhere.**
***Commercial*: premises used for services, retail, manufacturing and processing purposes**

Original use	*% change*	*Domestic*	*Tourist*	*Commercial*	*Other?*
Domestic *Status quo*					
Domestic *Reduce prices*					
Domestic *Rural diversification*					
Tourist *Status quo*					
Tourist *Reduce prices*					
Tourist *Rural diversification*					
Commercial *Status quo*					
Commercial *Reduce prices*					
Commercial *Rural diversification*					
Status quo					
Reduce prices					
Rural diversification					

3.7 Discussion of scores.

Use voting keypads linked to a computer projector to compare the range of scores. After discussion scores can be revised. The keypads have a range of 1-10. Input scores to the nearest 10% as below: Revised scores are input onto score sheets in red ink.

Keypad	Score (range)
1	0 - 10% (very unlikely)
2	11 - 20%
3	21 - 30%
4	31 - 40%
5	41 - 50%
6	51 - 60%
7	61 - 70%
8	71 - 80%
9	81 - 90%
10	91 - 100% (most likely)