Annex C: Monitoring Progress Report

COST

Domain Committee " ESSEM "

COST Action 634

On- and off-site environmental impact of runoff and erosion

MONITORING PROGRESS REPORT

Period: *from 19 April 2004 to 31 March 2007*

I. ***Management Report*** *prepared by the COST Office*

A. Action Fact Sheet

I. Action 634: On- and Off-site Environmental Impacts of Runoff and Erosion

II. Domain : Earth System Science and Environmental Management

Action details

Draft MoU : 280/03
MoU : 202/04
CSO approval date : 03/10/2003

Entry into force : 11/12/2003
End of Action : 18/04/2008

Objectives

Erosion and runoff have not only on-site effects, mainly soil degradation, but also off-site effects such as eutrophication of watercourses and lakes, and property damage by flooding. To avoid environmental impact of erosion the links between science and land users should be strengthened. The main objective of the Action is to develop an integrated understanding of on- and off-site impacts of soil erosion at the catchment scale in close cooperation with land management authorities. This Action is a follow up of former Action 623 which investigated soil erosion effects.

Signatures								
Country	Date	Status	Country	Date	Status	Country	Date	Status
Austria	30/04/2004	Confirmed	Belgium	16/12/2003	Confirmed	Czech Republic	11/12/2003	Confirmed
Denmark	11/12/2003	Confirmed	Finland	13/05/2004	Confirmed	France	16/12/2003	Confirmed
Germany	29/01/2004	Confirmed	Greece	04/06/2004	Confirmed	Hungary	12/01/2004	Confirmed
Ireland	08/10/2004	Confirmed	Italy	11/11/2003	Confirmed	Latvia	11/12/2003	Confirmed
Lithuania	11/02/2004	Confirmed	Luxembourg	11/03/2005	Confirmed	Netherlands	05/01/2004	Confirmed
Norway	15/01/2004	Confirmed	Poland	11/12/2003	Confirmed	Portugal	09/09/2004	Confirmed
Romania	04/03/2004	Confirmed	Serbia	11/03/2005	Confirmed	Slovakia	11/05/2004	Confirmed
Spain	25/02/2004	Confirmed	Switzerland	18/03/2004	Confirmed	United Kingdom	24/03/2004	Confirmed

Total	24

Intentions to sign		
Iceland	27/02/2007	Intention
Total	1	

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I.B. Management Committee member list

A. Management Committee

III. Action 634: On- and Off-site Environmental Impacts of Runoff and Erosion

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I.C. Overview activities and expenditures

To be check carefully by COST – STSM are missing (see table at the end of the report) and I have not all the informations concerning the meetings before 2006

Action 634

Total Action Budget 74000.00
Remaining Action Commitment -6247.43

Meetings

Meeting Type	Date	Place	Paid part	Cost	Total
Management Committee	19/04/2004	Brussels (BE)	21	10839.8	
Others	17/09/2004	Lublin (PL)	5	4720.26	
Joint Management Committee/Working Group	8/10/2004	Bratislava (SK)	78	64687.37	
					80247.43

STSM

Beneficiary	Date	From	To	Cost	Total
					0

Workshops

Title	Date	Place		Cost	Total
					0

General Support Grants

Title	Date			Cost	Total
					0

Schools

Title	Date	Place		Cost	Total
					0

80247.43

2005 Budget

Total Action Budget 113337.00
Remaining Action Committment 7833.63

Meetings

Meeting Type	Date	Place	Paid part	Cost	Total
Others	20/01/2005	Brussels (BE)	7	2776.4	
Joint Management Committee/Working Group	5/06/2005	Mont-st-Aignan (FR)	65	55674.3	
Management Committee/Working Group	15/09/2005	Lublin (PL)	44	38052.67	
					96503.37

STSM

Beneficiary	Date	From	To	Cost	Total

					0

Workshops

Title	Date	Place		Cost	Total
3rd MC and joint WG Meeting	5/06/2005	Mont St Aignan (FR)		6000.00	
Reorganizing field and landscape structures in a context of building strategies for water and soil protection.	15/09/2005	Lublin (PL)		3000.00	
					9000.00

105503.4

2006 Budget

Total Action Budget 94300.00
Remaining Action Committment 11208.65

Meetings

Meeting Type	**Date**	**Place**	**Paid part**	**Cost**	**Total**
In conjunction with Workshop/Conference	3/02/2006	Brussels (BE)	9	4671.78	
Others	7/04/2006	Strasbourg (FR)	7	3518.6	
Joint Management Committee/Working Group	26/05/2006	Samos (GR)	37	42039.8	
Working Group	1/10/2006	Wagenigen (NL)	26	18071.99	
Working Group	3/12/2006	Louvain la Neuve (BE)	15	8075.92	
Others	5/12/2006	Brussels (BE)	7	2343.26	
					78721.35

STSM

Beneficiary	Date	From	To	Cost	Total
					0

Workshops

Title	Date	Place		Cost	Total
Remote sensing and spatial analysis tools for erosion processes	26/05/2006	Samos Island (GR)		1370.00	
Farm level adoption of SWC measures and policy implications	1/10/2006	Wagenigen (NL)		3000.00	
					4370.00

General Support Grants

Title	Date			Cost	Total
					0

Schools

Title	Date	Place		Cost	Total
					0

83091.35

II. Scientific Report

The main objectives of the action 634 are to

- coordinate and synthesise European soil erosion research in the context of land management and policy formulation that encourage soil protection and reduction of on- and off-site impacts of runoff and erosion.
- identify and analyse the barriers for effective soil protection at all levels, (scientific, political, administrative and management)
- develop tools and methods to support decision making in the sustainable management of erosion-sensitive areas at the farm level including the implementation of soil protection measures.
- develop an integrated understanding of on- and off-site impacts at the catchment scale.

COST 634 has 3 WGs (WG1 - Policy issues in the implementation of sustainable land use, WG2 - Sustainable farm-scale management, WG3 – Catchment integration). Since the beginning, more than 20 countries participate – 24 at present.

Due to the size of the Action, a Steering Committee including the Chair and Vice-chair persons, the WGs coordinators (2 for each WG) assist the Chair person, prepare the decisions to be discussed and taken by the Management Committee (MC) and ensure the coherence of the whole action. The organisational structure approved during the first MC meeting (19 April 2004) is given by the figure 1.

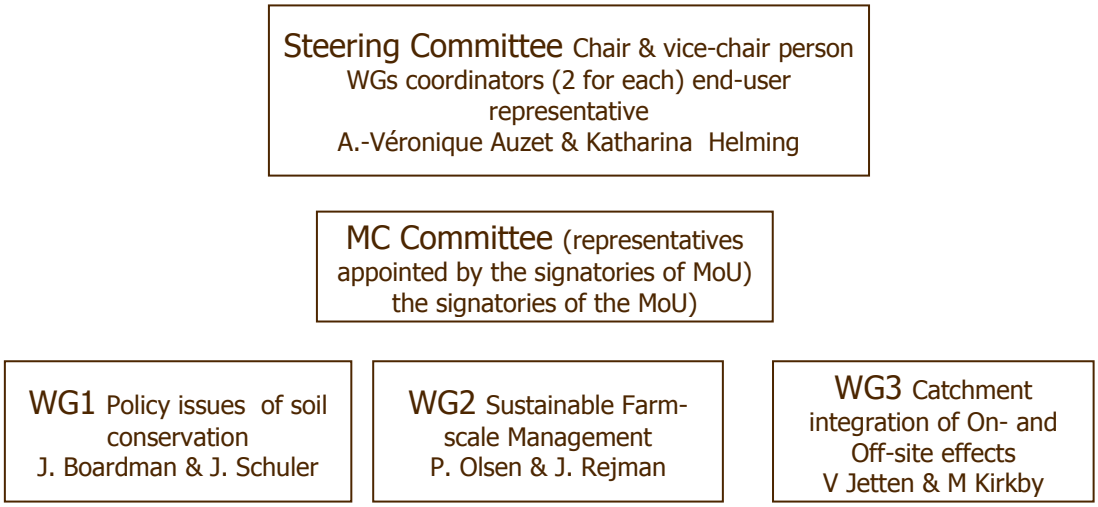


Figure 1: Organisational structure of action 634 "On and off-site environmental impact of runoff and erosion

Each WG holds meetings or joint meetings regularly each year. In addition, several SGM allowed "brain storming", exchange and common actions. According to the proposed structure adopted during the first MC Meeting in April 2004, a steering committee meets regularly, twice a year, to foster the activity of the 3 WGs and prepare the MC meeting.

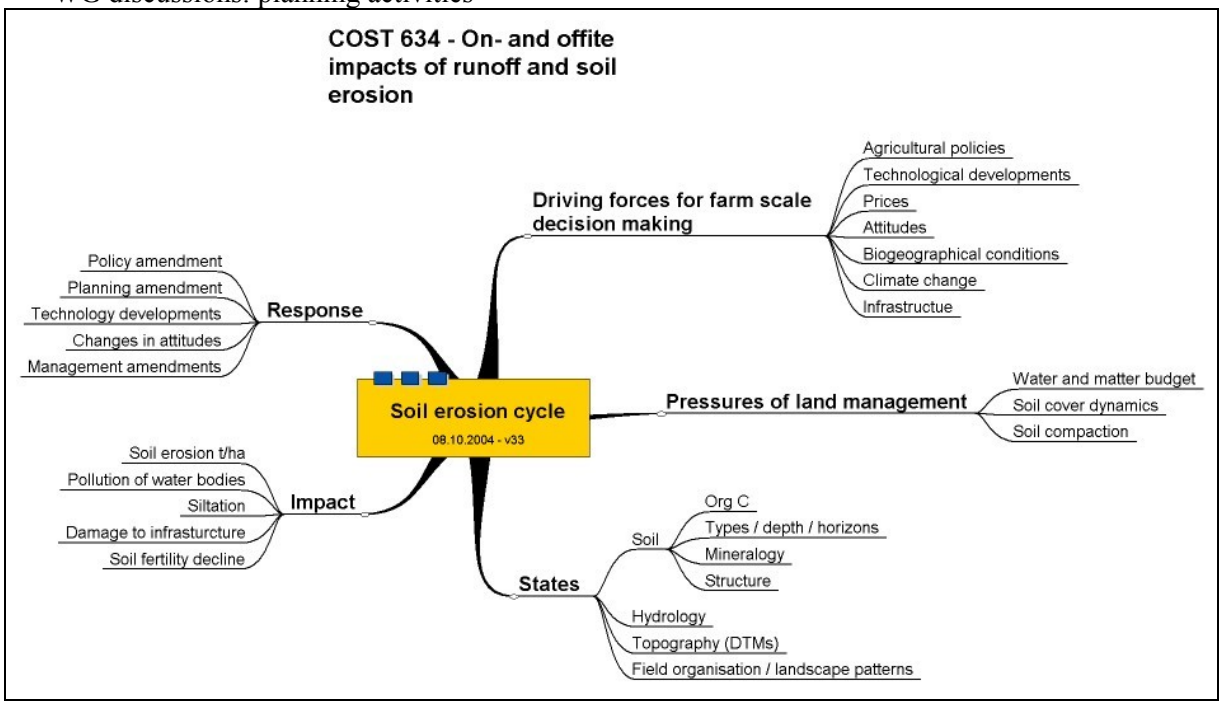
This report presents the results achieved since 3 years, their dissemination and a self evaluation.

I. WG meetings

in 2004

1. 1st common meeting for the 3 WGs (Bratislava, Slovakia) 8-10 Oct 2004
   90 participants, 17 countries

- 1st common meeting for the 3 WGs,
- Session on National Policy Initiatives across scales
- Keynote papers: Why don't farmers do what erosion researchers want them to? ; Research on tools and methods to support decision-making in sustainable management at the farm level" ; Soil management, water management: scales for conservation strategies, field or catchment ?
- WG discussions: planning activities



in 2005

1. Policy, perception, management and efficiency of soil conservation strategies at farm and catchments scales (Rouen, France, 5-7 June 05)
   110 participants, 20 countries (detailed report available on website)

WG1 - Implication of a new European soil strategy for erosion and conservation policy

- Value of soils and soil damages? Data for value of soils?
- Transaction costs
- Laws for water and air pollution ≠ laws regarding soil with respect to property rights
- National laws
- Threats to ground water quality
- Active involvement of farmers, farmer to farmer approach, knowledge transfer

WG2 - Soil Conservation strategies crossing farm and catchment scales: perception, management and policy

- implementation of various conservation practices
  - ✓ results of national and international projects (CH, MESAM, SOWAP; TMDL); minimum tillage and buffer strips;
  - ✓ dissemination among farmers as a key issue; knowledge base of individual farmers; social network of individual farmers and technical opportunities for change; different perceptions by scientists, policy makers, extension services & farmers
  - ✓ physical and economic modelling approaches
  - ✓ technical and intuitive knowledge
  - ✓ possibility of crop allocation in the catchment
  - ✓ contribution from particular fields of the catchment in final outflow; models to locate the main contributing areas;

WG3 - Off-site impacts of sediments or pollutants in small or medium catchments

- Physically based models give some valuable insights in the functioning of an area; default and literature data use to provide relative answer than absolute
- examples of risk assessment against erosion
- making maps of the perceived risk of erosion to arrive at some consensus

Plenary session on Phosphorous Issue

- Erosion contribution to P- losses,
- an obviously need to link both erosion and phosphorus
- identify the sources, prioritize measures and monitor if implemented measures have effect
- WFD: challenge for research both for process understanding, prioritising and giving advice in such a way that it can be utilized by local managers

Group discussion: Knowledge exchange between scientists and farmers

- Implementation means going from science to practice & bridging the gap between natural and social sciences
- ≠roles of scientists, advisors and farmers in implementation, the policy context, and the strategies how to get to the farmers
- enquiry & group discussion in 2006

Field trip : regional experience in Normandy

2. <u>Reorganising field and landscape structures and practices in a context of building strategies for water and soil protection (Lublin, Poland, Sept 05)</u>
   65 participants, 19 countries

WG1 – Policy issues

- What are appropriate BMPs, discussion with EC
  (preparation of the text for the EC soil thematic strategy: need for a comprehensive list of impacts of soil erosion - environmental, social and economical, positive or negative - "Impact assessment" of scenarios such as "protect the soils" - where, when, which thresholds acceptable ?- or "do nothing"), internet consultation on soil thematic strategy
- Soil erosion models, experimentation, economic or regulation tools should help agents to interact
- Interdisciplinary group discussion, progress in socio-economic aspects (risk perception, knowledge transfer, regulation and economy)

WG2 – Farm scale issues
- Economic drivers of erosion
- Landscape design and consequences for on and off site impacts on runoff and erosion
- Changes in field pattern and land use
- Flow connectivity and sediment delivery at field scale, within a watershed context
- Successful implementation, subsequent maintenance

WG3 – Catchment integration
- Catchment integration and predicting on- and off site effects mainly through modelling, backup by monitoring of research sites
- Results:
  - ✓ Comparison of modelling tools, new member countries especially profit from exchange of technology:
  - ✓ many requests for model applications,
  - ✓ Several STSMs based on technology exchange
  - ✓ Inventory of European models (results of previous COST 623)
  - ✓ Discussions on how to use tools in data poor environments.
  - ✓ Discussions on measurement and monitoring and on possibilities of using Earth Observation techniques
  - ✓ Spatial variability of land use and effects of farmers decisions on a catchment scale very difficult to predict
  - ✓ Understanding of larger areas and longer periods : built up from smaller time/space units (single storm or monthly / individual field, or farm); constraints on applications to large regions; severe problems in demonstrating compatibility across scales.
  - ✓ Scenarios for changing land use must involve the human dimension; cross-disciplinary involvement may now be a greater technical challenge than advancement of the science: how to do?
  - ✓ Uncertainty (often not even evaluated) of the forecasts and ignorance or non-inclusion of relevant factors for any particular site
  - ✓ Models : useful guidance, but as a basis for discussion at a local level prior to implementation.

in 2006

3. "Remote Sensing and Spatial analysis tools for erosion processes", Samos (Greece), 26-28 May 2006. (WG3 meeting)
   76 participants from 23 countries

Introducing new Geoinformation technologies within the study of erosion phenomena may provide us with innovative solutions and better forecast potential. The principal objective of the workshop was to present the capabilities of modern Geoinformation technologies and Earth Observation techniques to gain a deeper understanding of the role of erosion models in pursuit of preventing disasters related to erosion and land degradation. It was anticipated that obtained results should contribute to a scientific knowledge base for identifying risk areas for soil erosion in the frame of implementing the soil protection strategy at EU Member States level.

The meeting was hosted by the National and Kapodistrian University of Athens, the Geocultural Park of Eastern Aegean (Greece) and co-organised with the Utrecht University (Netherlands).

The subjects of the conference were Proceedings available on the COST 634 and of the Geocultural Park of Eastern Aegean websites. :
- Applications of Remote Sensing and GIS on the assessment of the on-site and off-site effects of soil erosion.

- Geoinformation tools for Decision Making in watershed management
- Spatial erosion modeling and quality improvement by remote sensing

A total of 33 oral presentations were held. The oral presentations were each day followed by a brief presentation for the posters of the conference and a poster session. The results and the topics that came out during the oral presentations were discussed in 1 hour sessions each day, according to the scheduled program.

The third day of the conference (28th May) was dedicated to field trip over the island of Samos. Several areas appearing significant erosional features and geomorphological forms were visited and experts from the University of Athens gave short lectures for each case study. The sites that were visited appeared different types of erosional processes, such as coastal erosion, hydrothermal processes and chemical erosion, and riverine erosion.

During the conference it was shown that although new high resolution sensors are promising, it is still quite difficult to detect erosion features on images. In fact an interpretation of patterns in vegetation has to be made to for instance detect gullies directly. However, some progress is being made as well in the detection of variables that are very important to soil erosion such as spatial patterns of soil moisture, changing protecting of plant cover and land use, etc. In line with the "off-site effects" objective of this COST action, a presentation showed the detection of sediment plumes in fresh water bodies of high natural value, that result from erosion on adjacent agricultural lands. Also shown were rates of headcut retreat derived from air photo interpretation. An interesting presentation from Spain showed very clearly that a change in agricultural policy has influenced land use, with adverse affects the extent of bare areas. Field inspections showed that these were now subject to gully erosion, where no erosion seen was before.

Many examples of erosion modelling were shown, whereby the tendency seems to be to not to use a single existing model but to design a model/method that fits the circumstances best, to ensure the best possible predictions for a given dataset. This can range from large sediment delivery ratios to small scale distributed modelling. In discussions we agreed that there is not one best method to model erosion, a concept of the functioning of the system is needed, before you build (or apply) any model and is depends on the objectives. Most people are very flexible in this. Temporal and spatial variation of runoff and erosion are still major issues in obtaining good predictions, advance is slow. In spite of this discussions also look to the future and the general consensus was that a logical next step would be to focus on risk analysis and damage assessment at various scales. Much has been done in this area by exchange networks of river flood specialists and decision makers (such as EXCIMAP) in line with the EU Flood directive.

4. "Farm level adoption of soil and water conservation measures and policy implications in Europe", Wageningen (Nederlands), 1-3 Oct 2006, WG1 & WG2 joint meeting
   50 participants from 17 countries

As in other parts of the world, many regions in Europe are affected by soil erosion and other forms of land degradation. Various programmes and policies have been designed in order to promote a variety of soil and water conservation (SWC) measures and "best practices" to prevent further land degradation. However these measures have often not been adopted on a large scale, because of a multitude of physical and socio-economic factors. In the adoption process several steps can be distinguished, each of which can form a constraint to adoption. In their decisions farmers will only consider the on-site effects of land degradation and in order to deal with the off-site effects additional physical and policy measures are required by other stakeholders, usually in the public sector. At present there are no direct policy measures at European level to control soil erosion, but there are incentives for environmental measures, and production aid is now subject to cross-compliance aimed at proper land management. Besides,

the EU proposes a strategy to protect Europe's soils and ideas are developed for a code for good agricultural practices.

The aim of the meeting was to discuss research (methodologies and results) on farm level adoption of SWC measures and "best practices", and on the policy measures required for such adoption processes. The workshop builds upon the outcome of earlier COST634 conferences, and in particular the one in Mont Saint Aignan on "Soil conservation management, perception and policy".

After the excursion on the first day, devoted to field visit of SWC measures in South Limburg, the next two days, 19 oral presentations were given in four different sessions:

Under WG2 :

- Farmer's perception and adoption behaviour with regard to SWC
- Socio-economic (and physical) factors, affecting adoption of SWC measures

Under WG1 :

- On- and offsite impact of soil erosion and SWC measures
- Effects of policy measures (CAP, etc.) on adoption of SWC measures.

In the late afternoon of the first day a poster session was held, which is more oriented towards the physical aspects of erosion and soil and water conservation.

In the late afternoon of the second day a final group discussion session was held to work on future research and project collaboration.

II. Small Group Meetings

1. Workshop on socio-economic aspect of the management of soil erosion, Strasbourg (France), 7-8 April 2006.

18 participants, 5 countries

Following the first meeting of COST Action 634 in Bratislava (October 2004) and thanks to debates that took place in Rouen (June 2005), it has appeared to be efficient to accompany the soil erosion research by analysing the socio-economic aspects of this issue. Indeed, sociologists and economists need to be integrated in the research process in order to be able to capture the evolution of the physical-technical knowledge when they are, themselves, thinking about the evolution of tools needed to reduce erosion risks. Besides, Bratislava and Rouen permitted the researchers in sociology and in economics not only to meet their colleagues in agronomy, hydro-morphology, geography, and other branches of research, but also to get in touch with researchers from their own community that are working on run-off erosion issues but evolving in other countries.

In this context, two COST members (S. Spaeter and J. Schuler) organised a workshop dedicated to the socio-economic aspect of soil conservation. The aim of this workshop was more than simply permitting people to get in touch with others in their disciplinary. It was to make them interact on their respective work thanks to sufficiently long oral presentations and to comments on them made by researchers that were acting as discussants. After the individual presentations (one day and a half), time was devoted to free discussion. This round table took place the second day and the guidelines of it were established at the end of the oral presentations, with respect to the different points that have been enhanced and that needed to be discussed further.

The main points that were enhanced during these two days are the following :

- To be able to implement adequate solutions for soil erosion reduction, it is essential to learn about the relevant societal processes related to land use and environmental protection. One must clearly identify all the stakeholders and the social networks.
- Economic tools, such as taxes or subsidies, should not be thought in a static system, with a given technology and given economic conditions. They should rather be considered in dynamic settings. Precisely, if monetary incentives must be implemented at the beginning of

the regulatory period in order to induce some change in the practices and behaviours of the agents, they should not be considered as being needed *at vita eternam*. They should be progressively evaluated with the practices.

- Besides, an adequate risk mitigating policy should rely on ex ante prevention measures but also on ex post compensation aspects. Indeed the behaviours of individuals are not disconnected from what they will have to pay or what they will obtain in the case if a damage.

Lastly, it is also important to know how the information is circulating through the group of agents (scientists, local deciders, farmers, ….) and to understand how the social networks are built.

Finally, such a workshop aims at gathering competences in socio-economics from different teams and different countries in order to create a sustainable socio-economic workgroup. It should lead to the organization of a second workshop, in Muencheberg in one or two years[1]. This second workshop would be the occasion to introduce new people in the field including other stakeholders (decision-makers for instance). In order to be more productive, the first one needed to be rather small and concentrated on people that have already met in Rouen and/or in Bratislava, but without having had the opportunity to go further in a fruitful collaboration.

2. Muddy flows and floods in North-Western and Eastern Europe: Impacts and response, Louvain-la-Neuve (Belgique), 3-4 December 2006.
24 participants, 6 countries

The objectives of the SGM are to consider the impact of, and the response to, muddy flows and floods in North-Western Europe. After the first day dedicated to the to water and muddy flood management in the Melsterbeek watershed and more gerally in Belgium, 11 oral presentations presented recent developments in Belgium, The Netherlands and France. The main points issued from discussions are:

- gap of data still remaining
- question of urban sprawl and the link between urban sprawl and damages
- land use change topic
- crops rotation and possibilities to include them in modelling

In addition, group discussion focused on future challenges regarding environmental, social and economic impacts of muddy flows and floods and societal response. One of the suggestions issued from the group discussion on "Environmental factors influencing muddy floods, environmental impacts of muddy floods and technical responses" was to examine solutions to solve several environmental problems with the same measure (e.g. Grass buffer strips to combat erosion and improve biodiversity).

3. The role of socio-economics in soil conservation, Muencheberg (Germany), 29-30 March 2007
11 participants, 5 countries

This small group meeting is the second "workshop" organised by the "socio-economic" group. It included 8 oral presentations (*(see also report on the web site)* and substantial discussion time. The main objectives of this meeting on the socio-economic insights of soil erosion risks are to give the floor to the economists and to the sociologists without disconnecting the research from the bio-geophysical aspects.

The presentations were on:

- Tools of evaluation,
- Scale issues in policy instruments,
- The relevance of transaction costs and property rights for soil conservation,

[1] This SGM took place in March 2007.

- Attitudes (behavioral economics) (psychological backgrounds)
- And questions of risk perception

Open questions for the next meeting(s) are:

- The role of Sociology is still not completely defined yet
- The relevance of scale issues to Sociology ("does Sociology use scales?")
- A comparison of management practices and policy approaches should be done (England, France, Belgium) (Evrard, Liegeois, Heitz)
- Is Culture an obstacle for soil conservation?
  - ✓ Anthropology should be included
  - ✓ Can Community identity play a role in the design of soil conservation attempts (based on institutional economics) (see presentation Zajickova)

Deeper discussions had been on cost-benefit-analysis

The application of CBA still has some open questions such as the difficulties of the evaluation of non-marketable goods. Therefore, the inclusion of such values into CBA is questionable.

A further point was the suggestion on how to implement CBA on farm level.

Other options that can be also relevant for the purpose of policy evaluation are:

- Sustainability Impact Assessment (SIA)
- Cost-efficiency-Analysis

In all cases, it was underlined that the results of such assessments should be used carefully.

General statements in the context of policy making from this meeting:

Zero risk is not attainable/desirable in an economical sense (Even in a technical sense it is very difficult to achieve since natural risk is present).

Roles of the different players in the soil conservation game:

Public deciders have to set the targets

➔ Economists help to find and choose the tools to reach the targets

➔ Soil scientists help to define the targets

III. Short term scientific missions (STSM)

Date begin	Date end	Subject	Applicant	Institute	Host
18/11/04	25/11/04	Meeting staff, future PhD field site	Dalen, E.	Univ Leeds	Estacion Experimental de Zonas Aridas, Almeria
29/11/04	12/03/2004	Modelling small scale rill erosion	Sisak, I.	Univ. Veszprem Georgikon Fac., Hungary	Inst. of Agrophysics, Lublin
01/10/2005	02/08/2005	Runoff, sediment and P modelling	Vanino, S.	CRA, Italia	Institute for Land and Water Management Research, Austria
16/02/05	20/02/05	General talks between institutes, GIS course	Stankoviansky, M	Comenius Univ. Bratislava	Braganca Polytechnic Institute, Portugal
05/02/2005	13/05/05	Integrating the assessment of soil surface and sediment properties	Darboux, F. Leguédois, S.	INRA, Ardon	University of Exeter, UK

30/3/2005	25/04/05	PhD research part, visit labs and landscape mdoelling. Testing of landscape model at research sites in Germany.	Papko, P	Comenius Univ. Bratislava	Univ. of Kiel
05/09/2005	21/05/05	Rainfall simulators comparison, erosion control measure comparison	Nastasa,V.	Central Research Station for Soil Erosion Control, , Rumania	University of Regio Calabria, Italy
19/02/2007	02/03/2007	Mitigating muddy floods in the European loess belt : Cost-benefit analysis and modelling of the impacts of mitigation measures	Evrard, O.	UCL, Belgium	ULP Strasbourg & BRGM Orléans, France

IV. Future activities planning

Topic	Organisers	Date	Location
Short term responses to changes in land use, critical assessment based on modelling	Lorenzo Borselli and Dino Torri	7-9 May 2007	Firenze
Training Course on Soil Erosion Risk	*Anne-Véronique Auzet, Mike Kirkby, Paul van Dijk*	*21-27 May 2007 or later*	*Strasbourg*
SGM on "muddy flows: mitigation and prevention"	A-V. Auzet, P. Fry	29 May-1st June 2007	Strasbourg-Bern-Lausanne
Offsite effects of sediment transport (muddy floods, chemicals/pollution, siltation etc).	Tomas Dostal	October 2007	Prague
SGM of the Socio-economic group	*Under WG1*	*Fall 2007 ?*	*To be decided*
Steering Committee : report and future	*A.-V. Auzet*	*December 2007*	*Brussel*
Conference for the End of COST 634	*Chairs + WGs co-chairs*	*Spring 2008*	*To be decided*

In italic: to be discussed and approved by the MC in Firenze

II.A. Results achieved during the period 19 April 2004 to 31 March 2007

Apart from the planned activities within this COST action 634, the network has resulted in a successful spin-off: a consortium of institutes, many of whom are members of this COST action, have successfully obtained an Integrated Project under FP6-2005-Global-4, Area 6.3.IV.1.1 Combat land degradation and desertification.

Several joint papers are now submitted to international journal or will be submitted in the next few weeks. In addition a special issue of Land Degradation and Development is under discussion.

II.B. Dissemination of results

- *Action related Publications and Reports* ***(list to be completed)***

Boardman J. and Poesen J. (Eds), 2006. *Soil Erosion in Europe*. Wiley.

Auzet A.-V., Kirkby M.J.M., van Dijk P. [Eds], 2005. Surface Characterisation for soil erosion forecasting:. *Catena*. **62**.

Helming K., Auzet A.-V., Favis-Morlock D., 2005. Soil Erosion Patterns: Evolution, spatio-temporal dynamics and connectivity. *Earth Surface Processes, Landforms*, **30** (2), 131-132.

Baghdadi N., Cerdan O., Zribi M., Auzet A.V., Darboux F., El Hajj M., Bou Kheir R., 2006. Operational performance of current synthetic aperture radar sensors in mapping soil surface characteristics in agricultural environments: application to hydrological and erosion modelling. *Hydrological Processes*, HYP-06-0017.R1, accepté le 17 octobre 2006.

submitted

Evrard, O., Cerdan, O., Chauvet, M., Le Bissonnais, Y., Vandaele, K., van Wesemael, B., Bielders, C. Transposability of runoff and erosion expert-based models: Application of STREAM to different environments with different expertise levels.

Spaeter S., F. Cochard et A. Rozan, 2006, «Prevention and Compensation of Muddy Flows : Some Economic Insights », miméo BETA, Université Louis Pasteur, Strasbourg 1.

In preparation

Evrard, O., Liégeois, M., Heitz, C., Vandaele, K., Auzet, A.V., van Wesemael, B., Boardman, J. A comparison of management approaches to mitigate muddy floods in central Belgium, Northern France and Southern England.

- *Conferences and Workshops*

Topic	Organisers	Date	Location
COST 634 1st common meeting for the 3 WGs	Anne-Véronique Auzet, Katharina Helming and Milos Stankoviansky	8-10 Oct 2004	Bratislava, Slovakia
Policy, perception, management and efficiency of soil conservation strategies at farm and catchments scales (3 WGs)	Véronique Souchère	5-7 June 2005	Rouen, France
Reorganising field and landscape structures and practices in a context of building strategies for water and soil protection (WG1 & WG2)	Jerzy Rejman	Sept 2005	Lublin, Poland
Workshop on socio-economic aspect of the management of soil erosion	Sandrine Spaeter, Johannes Schuler	7-8 April	Strasbourg, France
Remote Sensing and Spatial analysis tools for erosion processes (WG3)	Andrea Vassilopoulos, Niki Elvepidou	26-28 May 2006	Samos, Greece
Muddy flows and floods in North-Western and Eastern Europe: Impacts and response	Olivier Evrard, Charles Bielders, Bas van Wesemael, Karel van Daele	3-4 Dec 2006	Louvain-la-Neuve, Belgique
The role of socio-economics in soil conservation	Johannes Schuler, Sandrine Spaeter	29-30 March 2007	Muencheberg, Germany

- *Web site: http://soilerosion.net/cost634/*
- *Transfer of results*

Around one third of the regular and active participants to the activities are young researchers (PhD and Post Doc).

Interaction with Water boards in France, Belgium and Netherlands, their engineers take part and contribute to 4 of the WGs (Bratislava, Rouen, and Samos) or SGM (Louvain-la-Neuve) meetings

II.C. Self evaluation

With the participation of young researchers, the scope of the action enlarged during from soil erosion research to interdisciplinary works on socio-economic aspects of soil conservation.
For example, the Wageningen meeting was the platform for presentations from different strands of research (economy, sociology, soil science).
Participation from various countries during each event is,
(Large interest) especially among young scientists