Parallel session 1b synthesis

Sustainability Assessment

Integration of environmental, economic and social aspects for decision support in industry and policy

Process

- About 27 participants
- Diversity
  - Education: ecology, technology, economics…
  - Field: soil protection, water treatment, wast…
  - From 10 Countries
- 2 presentations: 1conseptual & 1 case study
- Brainstorming & discussion

Important general issues behind the research needs

- Multi-levels of scale
  - From EU to local
  - But also developing countries and global
- Different actors
  - Public – private
  - Decision makers – stakeholder (incl. consumers)
- Many potential focuses
  - Technology, technological systems, regulation or policies, needs, or needs within sustainability limits…

Key research needs (1/3)

- How to make Sustainability Assessment useful for questions of different actors?
  - Radical macro level change, e.g. Factor 4
  - Local level decisions on airport or waste treatment
- Developing target based Sustainability Assessment
  - At different level, but also examining the consistency of the targets

Key research needs (2/3)

- How to incorporate the constraints imposed by nature in Sustainability Assessment
  - Macro “limits to growth”
  - Micro, e.g. Soil quality protection constraints
- The potential role of stakeholder involvement for Sustainability Assessment
  - Which stages, how, which stakeholders
  - How to link it with uncertainty and long time effects

Key research needs (3/3)

- The role of quantification
  - What should be quantified that be can not quantify today; How?
  - How could quantified and qualitative (e.g. categorised) information better be used jointly?

Synthesis ANNEXE

Complementary Annexe

not part of the oral presentation during the seminar

General needs of research

- How agrosystems ET can contribute to the attractivities of territories: by shared social values, and/or by economic/environmental values
- How to measure sustainability? Standards, etc.
- Definition of integrating criteria for quantifying the degree of sustainability
- Multi-criteria multi-stakeholder sustainability assessment approaches as a tool for public participation and collective decision-making
- Link between expert assessment and social debate and decision process
- Sensitivity analysis, also on the choice of sustainability criteria
- Too more concepts, then too far from reality?
- SIA of EU policies: formulation; implementation and monitoring
- Deeper research on social costs – externalities
- Interdisciplinary research (not only from "engineering" point of view, but incorporating social scientists
- Biodiversity and ecosystem functioning
- Biodiversity and ecosystem services
- Sustainability of "natural" ecological systems as a source of inspiration for designing of sustainability of man-made systems
- Models for sustainability assessment, or models to (help to) identify actions (decisions) to meet a defined goal (sustainable development)
- How to assess the social impacts of our systems?
- Integration of stakeholders opinion in the assessment procedure
- Exploring the relation between economic growth and sustainability
- Factor 4
- Im=PACT (Im=environmental impact, P=population, A=affluence, C=consumption/unit of affluence, T="technological" impact per unit of consumption)
- The role of sustainability assessment in multi-level governance
- Make integrated studies with physical-social perspectives

Needs of research within FP7

- Sustainability assessment of ET: contribution of ET to adaptation to global change
- Methodologies/tools defining what has to be assessed besides environmental impacts
- Indication of entropy
- Indication of ecosystem service functions
- Defining the adequate boundaries for assessing environmental technologies
- Applying input-output economic approach (matrix of interindustrial exchanges) to sustainability questions
- Guidelines for considering both time (long term) and uncertainty in sustainability assessment
- Improving of methodologies for sustainability assessment, especially of relation economic and non-economic methods
- How to link in an assessment tool the analysis concerning dynamic behaviour of complex systems interaction (among society, economy, environment)
- Create simulators to present the drivers of sustainability to broader audience
- User involvement in assessment processes
- Focusing of Impact Assessment
- Ecosystem services: identity, driving processes, economical evaluation
- LCA of environmental technologies (including bioenergy)