



II Seminar on Environmental Accounting, Sustainability Indicators and Environmental Management of Rural Activities

General information

Organization: Embrapa Labex-Europe/ INRA-APC / CIRAD/ Agropolis International

Where: Agropolis International (Montpellier)

When: 22nd and 23rd September 2009

Who animates: Dr. Geraldo Stachetti Rodrigues (stacheti@cnpma.embrapa.br)
Dr. Inácio de Barros (indebarros@antilles.inra.fr)

Who should attend: researchers and high level students interested in methods and approaches for sustainability assessment and environmental management of rural activities.

1. Introduction

The II Seminar on Environmental Accounting, Sustainability Indicators and Environmental Management of Rural Activities will be held at Agropolis International in Montpellier on September 22nd and 23rd 2009. The seminar is a follow-up to an event on the same subjects held in May 2008 at the INRA Antilles-Guyane in Guadeloupe, as a result of the scientific collaboration between the “Unité de Recherches Agropedoclimatiques de la Zone Caraïbe (APC)” of INRA and the European Branch of the Brazilian Institute for Agricultural Research (Embrapa Labex Europe).

This 2nd edition of the seminar is intended to pursue the debate on systemic analysis of agriculture and to advance toward cooperative research propositions. In the first day, open to all, three meaningful approaches for sustainability assessment of rural activities will be presented and discussed under the light of case studies: i) the environmental accounting methodology based on eMergy synthesis, ii) the broad approach of systems agronomy and iii) integrated sustainability indicators. In the second day, working groups of invited researchers will debate the perspectives for methodological convergences among the three approaches, aiming at developing cooperative research initiatives on systems agronomy and sustainability indicators for environmental management of rural activities.

2. Contents

2.1. Environmental Accounting / Systems Ecology / Systems Agronomy

Agroecosystems function is the result of renewable energy and material flows and from environmental storages that resulted from past biosphere production. All these flows can be evaluated and integrated into a common measurement unit by the application of environmental accounting methods (as proposed by H.T. Odum). Based of this common energy unit, costs, impacts and changes in natural capital can be summed up to evaluate the performance and the sustainability of production systems.

The extension of these concepts to agricultural systems, considering the specific resources, environmental requirements, as well as the aims and needs of farmers, is the subject matter of Systems Agronomy. In this session these developing fields will be presented, together with methodological approaches and case studies on the sustainability of farming systems.

2.2. Integrated sustainability indicators

Among the possible alternatives to carry out assessments of socio-environmental performance of rural activities and motivating farmers to promote technology conversion and adoption of sustainable management practices, the use of sustainability indicators has been a method of choice. Ideally, the indicators are organized in assessment systems that may span increasing levels of complexity and goal requirements for environmental management. In this session the development and applications of sustainability indicators for agricultural environmental management will be discussed, with oil palm production as a particular case study.

3. Program

Day 1 – 22nd September 2009

Morning: Systems ecology and agronomy for sustainable development

- 8:30-9:00 Participants reception and opening session
- 9:00-9:40 Systems ecology
(Mark Brown, Center for Environmental Policy, University of Florida)
- 9:40-10:20 A Sustainability Assessment Methodology Framework (SAMEFrame)
for environmental accounting in agriculture
(Geraldo Stachetti Rodrigues, Embrapa Labex Europe)
- 10:20-10:40 Coffee break
- 10:40-11:20 A systems agronomy approach – case-study on banana production in Guadeloupe
(Inácio de Barros, INRA-APC)
- 11:20-12:00 Systems Agronomy and its contribution to Integrated Assessment
of Agricultural Systems (Jacques Wery, SupAgro)
- 12:00-12:40 Debates
(Chair: Paul Robin, INRA.SAD-UL2.LER-Mtp.SupAgro)
- 12:40-14:00 Lunch pause

Afternoon: Integrated Sustainability Indicators

- 14:00-14:40 Agriculture for sustainable development: strides in the oil palm sector
(Marcello Brito, Agropalma, Brazil)
- 14:40-15:20 An integrated sustainability indicators system (APOIA-NovoRural) –
application to oil palm environmental management
(Geraldo Stachetti Rodrigues)
- 15:20-15:40 Coffee break
- 15:40-16:20 INDIGO – agri-environmental indicators for sustainable oil palm
(Jean-Pierre Caliman / Julie Wohlfahrt, CIRAD, Systèmes de pérennes)
- 16:20-17:00 Perspectives on environmental indicators for a sustainable rural sector
(Christian Bockstaller, INRA-Colmar)
- 17:00-17:40 Debates
(Chair: Robert Habib, DS-CIRAD Persyst)

Day 2 – 23rd September 2009

Working groups for cooperative research proposition on systems agronomy and sustainability indicators for environmental management of rural activities.

Morning: Thematic working groups discussion and cooperative research priority setting

8:30-9:00 Working groups organization and briefing

Proposed working group themes (Questions for cooperative project proposal):

1. Emergy balance in the agro-energy sector and the sustainability of biofuels
 - a) One or multiple feedstocks? / Crop or country level approach?
 - b) Full extent LCA for, or just straightforward eMerger analysis of biofuels?
2. Systems ecology / agronomy applications to farming systems' evaluation and design
 - a) Integration or dimensional solution for biotic / abiotic / socio-economic parameters?
Plot level or farm scale?
 - b) Performance evaluation for management or ecosystems services and disservices
valuation approach? Crop priority listing?
3. Quantitative indicators and eco-certification in agriculture – how to advance on the PC&I initiatives
 - a) Crop / product priority listing?
 - b) Complementary benchmarking or alternative sustainability indexing?
 - c) Quantitative / analytical / documental evaluation or variable complexity / scoring-type methodologies?

Working groups task: a three paragraph pre-proposal containing:

- a) Project title
- b) Justification / objective statement
- c) Main deliverables and activity leaders / institutions / addresses
- d) Timetable and focused funding

9:00-10:20 Working group debates

10:20-10:40 Coffee break

10:40-12:00 Working group debates continuation

Afternoon

14:00-17:00 Working groups presentations

17:00 Closure
