Lessons learned from developing and applying RISE

Response-Inducing Sustainability Evaluation

4th Meeting of the GBEP Task Force on Sustainability

Heidelberg, March 20\textsuperscript{th}, 2009 – Dr. Jan Grenz
„relevant, practical, science-based, voluntary sustainability (...) indicators to guide any analysis undertaken of bioenergy at the domestic level.“
SHL Campus, Zollikofen (CH)

only Swiss UAS in the agricultural sector
360 Students, 150 staff
R&D projects in ~20 countries
What is RISE?

An indicator-based method for holistic sustainability assessment of agricultural production at farm level
• that aims at motivating farmers to reflect on sustainability issues and initiate improvements,
• has been developed at SHL since 2001 and
• was applied on ca. 450 farms in 15 countries.
Why assess sustainability at farm level?

Agricultural sustainability is “made” on >400 Mio. farms worldwide. Farmers’ decisions lead to impacts on environment, economy and society. Better information on likely impacts on non-target dimensions should help farmers take more sustainable decisions and actions.
The indicator set (RISE v. 1.0)

Energy
Water
Soil
Biodiversity
Emission potential (N&P)
Plant protection
Waste
Economic stability
Economic efficiency
Local economy
Working conditions
Social security*

*including means of subsistence (=> food security)

Natural resources
Agronomy
Economy
Social situation
1. Preparation & questionnaire-based data collection (ca. 3 hrs/farm)

2. Data processing & plausibility check (1 hr/farm)

3. Data analysis, preparation of feedback report (2 hours/farm)

4. Feedback discussion, identification of measures (2-3 hours/farm)

re-evaluation
Some results

Armenia, 200 farms

Kenya, 30 smallholdings

Switzerland, 10 mountain dairy farms

Canada, mixed farm
Stimulus for change

Consultancy of individual farmers and farmer groups

- Introduction of production techniques
- Construction of stables
- Safe and secure storage of chemicals
  - Establishment of an extension service team
  - Demonstration farms
  - Experimental farm (training for farmers)
  - Extension DVD on good agricultural practice

Construction of biogas digesters
Peculiarities of the RISE approach

• Farm- and farmer-centered, builds on intrinsic motivation of farmers (no „pass or fail“ test)
• „best available data“ principle, no physical measurement
• Combines hard science and soft application
• Algorithms generic, parameters regionally adapted
• Attempts to put the DSR scheme into practice
• Application-centered development process
Lessons learned (1)

Assessment at farm level, trust in farmers‘ motivation

+ Only way to capture intricacies of real-world farm management (no model captures the whole system)
+ Many farmers are eager to learn and do a better job
- Time-consuming („have a cup of coffee“)
- Industrialised countries: high density of regulations and paperwork reduce intrinsic motivation

➢ Change is best induced in transitional situations
➢ Emphasise achievements to increase motivation
Lessons learned (2)

Flexible approach to data quality & parameterisation

+ Allows to address all farms
+ Regionalisation is inevitable (interest rates, poverty line)
- Trustworthiness of data is variable
- Risk of insufficient selectivity (e.g. ROI on Swiss farms)
  ➢ Flexibly handle data quality
  ➢ Adapt statistics to data quality
Lessons learned (3)

Hard science & soft application

+ Visualisation is greatly appreciated by farmers & donors
+ Sound science helps build trust and acceptance
+ No expert system can fully replace the expert
- No universally applicable system boundaries (forest, interdependence farm-household, life cycle issues)
- DSR is hard to implement, harder to communicate

➢ Integrate science & communication from the beginning
➢ Model should make trade-offs & synergies explicit
Thoughts

• Sustainability must become tangible and feasible at farm level – communicating is crucial
• To be of use to farmers, assessments should take all farm activities into account (not just dairy, bioenergy etc.)
• „L‘art pour l‘art“ analyses are very unlikely to make an impact – integration into processes is a must
• Analyses of the RISE type should complement certification schemes
Thank You for Your attention!
Questions?