Welcome to



Le Corum, Montpellier, France



16-18 March 2015



Third Global Science Conference



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Plenary Feedback from Parallel sessions

14:00 Feedback from Parallel sessions L₃: Towards Climate Smart Solutions

Leslie Lipper (FAO) & Jean-François Soussana (INRA)

14:20 Questions

14:30

AUDITORIUM PASTEUR



Feedback from Parallel sessions L3

« Towards Climate Smart Solutions »

Many thanks to the speakers

Cynthia, Eddy, Leila, Vinay, Jacob, Fiona, Michael, Philippe, J-Jacques, Eric, Philippe, Mario, J-Francois, Petr, Pierre, Anne, Juan Pablo, John, Ursula, J-Marc, Bruno, Peter, Adriano

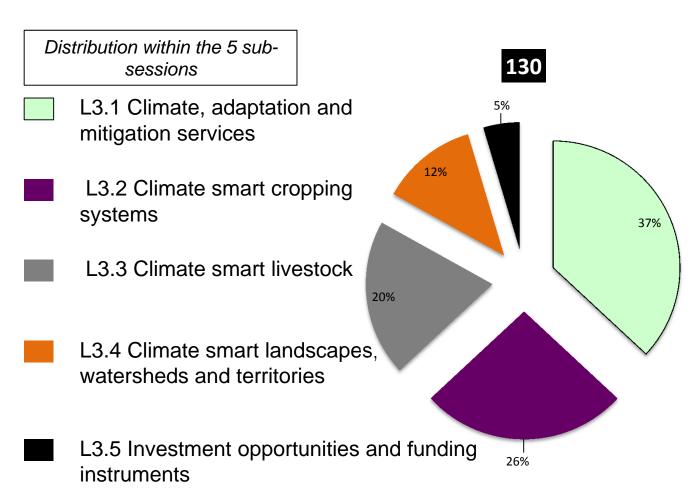
and to the chairs

	chair
L3.1: Climate adaptation and mitigation services	Eddy Moors
L3.2 Climate-smart cropping systems	Pramod Aggarwal
L3.3 Climate-smart livestock	Mark Howden
L3.4 Climate-smart landscapes and watersheds	Bruno Rapidel
L3.5 Investment opportunities and funding instruments	Leslie Lipper



Posters for Session L3 "Towards Climate-smart Solutions"





L3-1. Climate adaptation and mitigation services



Examples already in use:

Strong modelling component which can contribute to create services, especially if linked to ICT technologies

Numerous websites and portals (contribute to confusion?)

Climate/economic models that give limited information on price impacts, meteorological data from ground stations disseminated via SMS example: Good Climate-Smart Irrigation Practices enabled citrus farmers in Morocco.

L3-1. Climate adaptation and mitigation services



Major trends: Stakeholder engagement, fast development/dissemination of ICT, Projection uncertainty

Triple wins? ICT climate services still mostly divided between adaptation and mitigation.

Research needs?

- 1) What information empowers actors: citizen science could help
- 2) Technologies to effectively support adaptive management, e.g. in their capacity to facilitate decentralised and participatory collection
- 3) Further improvement of site data and model capacity on GHG emissions, crop production, water requirements, market pricing
- 4) Cutting-edge assessment framework on both global and regional scales, which links climate, crops, livestock, and economics

L3.2 Climate-smart cropping systems



- The transformational changes in agricultural production systems for adaptation to climate change could be long-lived, investment-intensive and limited reversibility
- Legume crops have a major role to play, especially in nutrients poor soils
- CSA based adaptation planning requires adequate foresights to avoid maladaptation
- Bundling of CSA options to implement in the wide range of adaptation domains are necessary to achieve triple goals of CSA (adaptation, mitigation and food security).
- Multiple uncertainties (climatic, economic and socio-political) under CSA interventions can be minimized through participatory evaluation and integration of local knowledge.
- For instance, climate-smart village model is an attractive model for scalingout CSA.

L3.2 Climate-smart cropping systems



Further research

- Required to generate quantitative evidences of CSA including synergies and trade-off among the CSA options in different adaptation domains.
- Required to provide agro-ecological zone based agriculture development pathways integrating CSA options and investment portfolios (including returns)
- Highlight the importance of provision of climate information and services, value of farmers' local knowledge, capacity building, and communicating knowledge on CSA practices, technologies and services

L3.3 Climate-smart livestock

livestock

Key scientific and societal issues

Productivity impacts

Production Climate-smart feeding higher

Climate emission potential temperature emissions

Change increased options System Use

Change increased options System Use

Change grazing methane milk temperature emissions

Change increased options Systems cattle water

adaptation strategies feed Session gas management change animal gas management change enteric food

Strategies feed Session gas management change increased options scenarios scenarios enteric food

Climate change is likely to bring significant challenges to many livestock systems through the tropics, sub-tropics and dry temperate zones, resulting in reduced productivity, increased risk and introduction of a range of adaptations.

There are many potential mitigation options covering extensive to intensive livestock systems, most of which have been evaluated on a direct emissions basis mostly.

Knowledge gaps and research needs

Actual integration of adaptation, mitigation and food security in realistic system analyses, leading to a solid body of case studies

Consistent evaluation of mitigation options using life cycle or whole-of-system approaches to guard against perverse options

Economics and funding of adaptation and mitigation and policy packages Consistent use of combinatorial options using action research methods

L3.3 Climate-smart livestock



Key findings

We now have integrated scenarios for livestock with/without climate change
There are still large uncertainties especially on grasslands productivity and on soil carbon stocks
The potential of technical mitigation options may be too limited, same for adaptation in some
regions: transformation will be needed but is still relatively unexplored.
Other metrics will be needed but are relatively unexplored

An overview of climate smart solutions for livestock

- Some solutions that are already in use (migratory livestock systems, improved feeding regimes such as dietary oils, more efficient use of grazing resources)
- Solutions requiring further research (combinatorial adaptation options)
- Examples of participatory design of solutions, of knowledge co-construction (not many in this session)
- Many adaptation and mitigation options have co-benefits.
- Transformation could be through more diversified systems, but this is region specific

L3.4 Climate-smart
landscapes and
watersheds

L3.4 Climate-smart
spatial
sustainable
sustainable
sustainable
sustainable



Examples already in use:

Tree cover (in agricultural landscapes)

Restoration

Wet organic soils alternately cropped

Agro-pastoralism (maybe)

Adaptation and mitigation have outcomes that vary at different spatial and temporal scales

Enabling conditions: stable CSA governance, land tenure, community empowerment, collective action, simple planning, good leadership

L3.4 Climate-smart landscapes and watersheds



Triple wins? Land optimization is possible and has potential for triple wins (trade-offs explicitly recognized and addressed

Research needs? Integrated modelling approaches that capture multi-functionality, spatial models of farm/landscapes, conceptual modelling to promote shared understanding.

Adapting landscape models to CSA

L3.5 Investment opportunities and funding instruments



Examples already in use:

Very limited use of climate finance in agriculture (USD \$495 million over 90 projects)

Big opportunity now arising with green climate fund Is soil carbon a good bet?

Most is related to adaptation or mitigation – not integrated Includes weather index insurance, and possibly redirecting agricultural finance (such as for subsidies)

L3.5 Investment opportunities and funding instruments



Barriers: lack of capacity of Micro-finance institutions to integrate CC, lack of incentives for private sector participation (including farmers). Need for MRV.

Triple wins? So far financing for each CSA objective separately (e.g. agriculture/food security, adaptation, mitigation)

Research needs? Is it more efficient to have integrated financing or separate streams? Standardized MRV for agricultural mitigation (for public investment as much as carbon markets)



L3. Towards climate smart solutions

- ✓ Please provide an overview of climate smart solutions discussed in your session. DONE
- Are solutions triple wins?
 Seldom, most work targeting still one or two pillars only. But lot of potential
- If not, please provide examples of possible trade-offs.
 Trade-offs are multiple scale and context dependent!
- Which type of knowledge or of research could help overcoming such trade-offs?
 Metrics needed, multiple loop innovation processes
- Have these solutions a potential for a large range of systems and world regions?
 Transformative solutions still relatively unexplored
- What are the costs and benefits and the side effects for agricultural sustainability?
 Global and regional cost estimates which are far away from farmer's perspective. Farmer cost-benefit needed and understanding behaviors.
- At which scale should investments be made to be effective
 Investments are not (yet) bridging adaptation mitigation food security
 Involve value chains in funding



Thank you for your attention!