Closing the Efficiency Gap

Network activities

Rogerio M Mauricio – Coordinator
2022 Action Network Highlights

*Elements of the current Action Plan to be implemented (2020-2023)*

1. AN operational management
2. Efficiency matrix exercise (EM)
3. Piloting, projects and evidence
4. Communication strategy
1. AN operational management

- Coordination of USDA seminars on Silvopastoral (SPS) system in Latin America e Caribe
  - SPS Brazil – 300 participants
  - SPS Argentina – 200 participants
  - SPS Colombia – October
  - SPS & grassland - Uruguay – November

- Coordination of Latin America & Caribe Regional Chapter
  - 3 meetings and further steps are in progress

- Coordination of Latin America Regional meeting
  - 220 participants attended the seminar
2. Efficiency matrix exercise (EM)

- **Phase 1** was mainly dealing with animal and land use productivity and their economic performance. Some elements of emissions were introduced.
  - *Resilience aspects?*

- **Phase 2** is planned for identifying and selecting methodologies involving water use.
  - *Dairy Sustainability Framework?*

- **Phase 1 and 2** were part of our activities at Thünen Institut - (Germany, 6 month)
  - Social aspects (family labour? Income? social security?)

- Action Networks: *Synergies in measuring sustainability in Sustainable Food Systems*
  - CEG, GSPSN and Livestock for Social Development
3. Piloting, projects and evidence

Project (Thunen – Germany, UFSJ – Brazil & CEG GASL)
Case analysis – economics and GHG emissions and removals

Scenario 1 – Conventional
Scenario 2 - ILPF
Scenario 3 - Natural regeneration

3 – 7 October 2022 Dublin Ireland | 12th GASL MSP Meeting (Hybrid)
3. Piloting, projects and evidence... Results:

<table>
<thead>
<tr>
<th></th>
<th>Conventional pasture</th>
<th>ILPF</th>
<th>Natural regeneration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost of beef production</strong></td>
<td>low</td>
<td>medium to high</td>
<td>medium</td>
</tr>
<tr>
<td><strong>Profitability</strong></td>
<td>Medium term only – not covering opportunity costs of land (renting out)</td>
<td>Long term, incl. crop and eucalypt returns</td>
<td>Long term – covering cash costs, depreciation and land opportunity costs</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>Beef only</td>
<td>Beef, Soy/Crop and Eucalypt</td>
<td>Beef only (Eucalypt option)</td>
</tr>
<tr>
<td><strong>Climate change impact</strong></td>
<td>High beef footprint, no compensatory sinks</td>
<td>Improved beef footprint, carbon storage in trees</td>
<td>Improved beef footprint, long term storage and net carbon sink</td>
</tr>
<tr>
<td><strong>Climate change adaptation</strong></td>
<td>No – long finishing period, adaptation via supplementary feeding</td>
<td>Reduced heat for animals and wind erosion, reduced pasture yield variability</td>
<td>Reduced heat for animals and wind erosion, reduced forage yield variability</td>
</tr>
<tr>
<td><strong>Added environmental services</strong></td>
<td>Steady state of pasture</td>
<td>Soil stabilisation and improvement, improved microclimate</td>
<td>Soil and vegetation regeneration, high biodiversity, water storage</td>
</tr>
<tr>
<td><strong>Impact beyond farm</strong></td>
<td>Requires soy and maize cultivation for feed supplement</td>
<td>Sets land free compared to CP through high stocking rate, soy and timber production</td>
<td>Sets land free through high stocking rate</td>
</tr>
</tbody>
</table>
Animal Production and Health Section
Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture

First Research Coordination Meeting
Coordinated Research Project D3.10.31
“Nuclear and related techniques to measure the impact of type of feeding and production system on greenhouse (GHG) emissions and livestock productivity”

Diversified tropical biomass associated to non-human edible feeds and co-products could reduce the GHG in dairy cattle?

IAEA Research Contract Nº: 25088

3 – 7 October

Vienna, 25-29 April 2022
High plant biodiversity in the tropics
High plant/forages → adapted to the tropical soil & climate
4. Communication strategy

Economics and GHG of monoculture, silvopastoral and ILPF livestock systems in Brazil

_UFSJ (Brazil), Thuenen Institut (Germany) & CEG GASL_
Could biomass revolution be done by silvopastoral systems?

ANs interactions: CEG & GNSPS
4. Communication strategy...

Publish the results of ``Mapping`` as GASL paper

(CEG & GNSPS)
4. Communication strategy...

Quantification of methane emitted by ruminants: a review of methods

Luis Orlando Tedeschi,†,‡ Adibe Luiz Abdalla,§ Clementina Álvarez,‖ Samuel Weniga Anuga,§
Jacobo Arango,§ Karen A. Beauchemin,§ Philippe Becquet,‖ Alexandre Bermdt,‡ Robert Burns,‖‖,
Camilo De Camillis,§§ Julián Chará,¶¶ Javier Martin Echazarreta,§§ Mélynda Hassouna,‖‖‖
David Kenny,‖‖‖ Michael Mathot,‖‖‖‖ Rogerio M. Mauricio,§§§ Shelby C. McClelland,§§§§
Mutian Niu,§§§ Alice Anyango Onyango,‖‖‖‖, Ranjan Parajuli,‖‖‖‖‖ Luiz Gustavo Ribeiro Pereira,§§§§
Agustin del Prado,§§§§,§§§§ Maria Paz Tieni,‖‖‖‖ Aimable Uwizeye,§§ and Ermias Kebreab,‖‖‖‖‖
4. Communication strategy
4. Communication strategy

The first attempt to develop a set of indicators of resilience that could apply across livestock systems based on 5 cases studies representing a range of systems around the world, from subsistence to commercial

- CEG GASL
- Michigan State University
- League for Pastoral Peoples and Endogenous Livestock Development
- Dairy Sustainability Framework
- Global Roundtable for Sustainable Beef (GRSB)
- CIPAV
- University of Helsinki
You are welcome to join the CEG Action network!
Thank you
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