Climate Smart Livestock: Mitigation, adaptation and efficient management practices in Ecuador

Pamela Sangoluisa R.[a,b,c], Juan Merino[a,b,c], Jonathan Torres[a,b,c], Armando Rivera[a,b,c]

[a] Ministry of Agriculture and Livestock
[b] Ministry of Environment
[c] Food and Agriculture Organization of the United Nations

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Introduction

In Ecuador, livestock sector plays a significant role for income and employment generation. At the same time, it is directly influenced by the impacts of climate change and is an important contributor of greenhouse gases (GHG). For 2012, livestock related GHG emissions account for 45.77% of the national agricultural sector. Therefore, a climate-smart management perspective is piloted in the country:

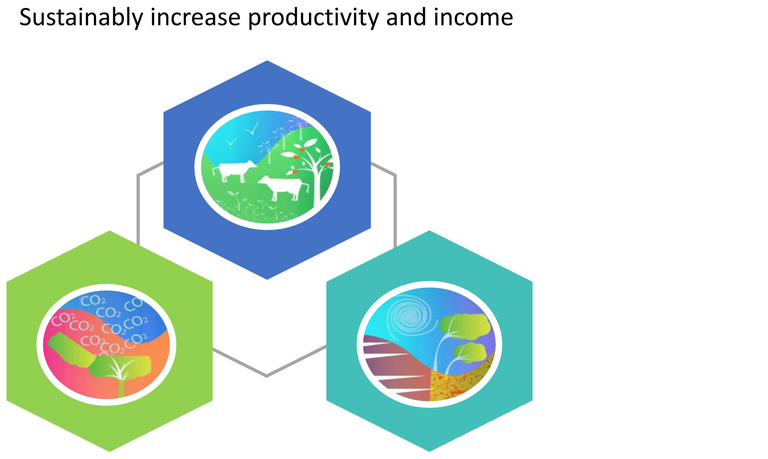


Fig.1: Main pillars of the climate smart approach.

Methodology

Bottom up approach

- Local vulnerability analysis (29 workshops, 797 producers).
- Rural participatory appraisals (29 workshops, 686 producers).
- Gender analysis (28 focus groups, 239 producers).

Greenhouse gas direct emissions quantification

- 419 field surveys conducted in livestock productive systems nationwide to collect data regarding herd, feed basket and manure management systems.
- Adaptation of the Global Livestock Environmental Assessment Model (GLEAM), based on the IPCC tier 2 methodology.

Adaptive capacity quantification

- 46 indicators used to quantify climate risk at parish level, and 11 indicators to quantify climate risk at farm level.
- Based upon the IPCC 5th Assessment Report.

On farm monitoring and capacity strengthening

- 165 pilot farms in seven provinces of the country .
- Farmer field schools (FFS).




Fig.2: Farmer field schools with small livestock producers in Ecuador.

Results

Identification of climate smart livestock management practices

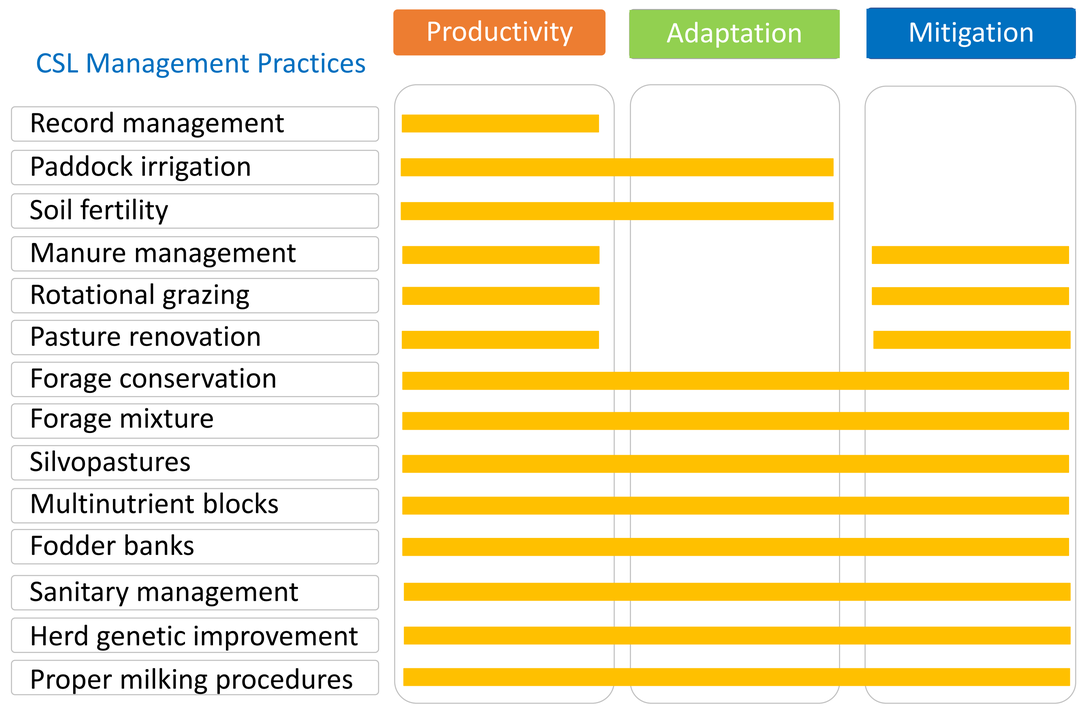


Fig.3: Climate smart livestock management practices implemented in the pilot farms.

Greenhouse gas direct emissions baseline

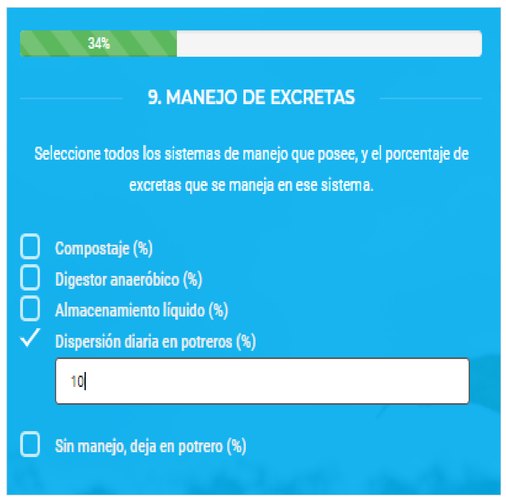
- At national level, direct GHG emissions account for 16547 Gg CO_2eq, being 76.92% methane from enteric fermentation, 18.12% nitrous oxide from manure in pastures, 2.66% methane and 2.30% nitrous oxide from manure management (preliminary).

Adaptive capacity baseline

- On average, pilot farms have moderate (3) climate risk, moderate (3) vulnerability and high (4) adaptive capacity level.

Monitoring tools and field impact

- 1 adaptive capacity and 1 GHG direct emissions quantification web tool.



Producers 327 female 678 male	29936 Ha	37 FFS Training workshops 588	Conservation 1669 Ha
Financial assistance 393 producers	Co-financing 38% Producers 62% CSLP - others		Silvopastures 551 farms

Fig.4: Monitoring tools and project field impact figures.

Future work

- Quantify the impact of implemented practices on pilot farms twice per year. Preliminary values for 2019, indicate a reduction of GHG emissions and improvement of adaptive capacity.
- Estimate potential for carbon sequestration in pastures and carbon stocks in trees.
- Prepare a National Appropriate Mitigation Action proposal for the livestock sector, based upon the information and lessons learned from the Project.

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