Livestockplus: Supporting low emissions development in the Latin American cattle sector

Jacobo Arango¹, Idupulapati Rao¹, Todd Rosenstock², Jeimar Tapasco¹, Jennifer Twyman¹, Rolando Barahona³, Diana Bolivar³, Cristobal Villanueva⁴, Mauricio Chacón⁵, Nelson Vivas⁶, Xiomara Gaviria¹, Ricardo Gonzales³, Sandra Durango¹, Felipe Torres⁷, Juan Ku Vera⁸, Enrique Murgueitio⁹, Julian Chará⁹, Isabel Molina^{1,8}, Marta Suber², Daniel Villegas¹, José L. Urrea¹, Ngonidzashe Chirinda¹ ¹International Center for Tropical Agriculture (CIAT); Colombia, ²World Agroforestry Centre (ICRAF), Kenya; ³National University of Colombia, Dept. of Animal Production, Colombia; ⁴Tropical Agricultural Research and Higher Education Center (CATIE), Costa Rica; ⁵Ministry of Agriculture and Livestock, Costa Rica; ⁶University of Cauca, Colombia; ⁷Institute of Hydrology, Meteorology and Environmental Studies (Ideam), Colombia; ⁸Universidad Autónoma de Yucatán, Mexico; ⁹CIPAV Foundation, Colombia. CONTACT: j.arango@cgiar.org

Introduction

The livestock sector in the LAC region is facing different problems of: (i) low productivity (ii) soil erosion, and (iii) low profitability due to inadequate insertion to markets.

To address these issues, improved pastures with environmental traits along with adequate management practices might be one of the most promising options of the livestock sector to mitigate climate change.

The Livestockplus project seeks to apply the concept of sustainable intensification of livestock systems in two countries of the LAC region such as Costa Rica and Colombia, to provide technical support, generate critical information and guidelines necessary for identifying options; also contribute to planning and policies for scaling up of NAMAs.



FARM DESCRIPTION AND LIFE CYCLE ANALYSIS



POSTER PAPER

and use in breeding and bovine fattening systems of different sizes in 13 departments in Colombia

Gonzalez et al, 2018



CONFERENCE PAPER Carbon Footprint (CF) in Breeding Cattle Systems in Colombia

Gonzalez et al, 2018







Farmer-oriented guides to disseminate good ivestock practices including farm management and suitable species according to edaphic-climatic conditions to conserve biodiversity & soils



Used to improve Colombia's National GHG Inventory to the UNFCCC and the preparation of the sustainable bovine livestock NAMA. Ruden et al, 2018



METHANE New technologies have been identified to reduce CH_{A} emissions, while increasing digestible crude

protein and animal productivity.



DIL HEALTH Smart forage selection could significantly improve soil health in the tropics *Horrocks et al, 2019*



NITROUS OXIDE

Certain traits of *Brachiaria* grasses such as their BNI ability, association with arbuscular mycorrhizal fungi, and growth reduce nitrous oxide emissions in tropical grasslands.



After three years of successful operation, the LivestockPlus project enabled the development and the first steps for implementation of NAMAs for the cattle sector in Costa Rica and Colombia.

The project facilitated synergies that enabled overcoming barriers to the adoption of improved management practices and, consequently, the achievement of low emission development by:

- Fostering partnerships among relevant stakeholders (**j**)
- Identifying and evaluating best-fit mitigation options (ii)
- (iii) Evaluating measurement reporting and verification (MRV) systems for the cattle sector in the target countries. Efforts are now expanded beyond these two countries across the region as applicable.

ACKNOWLEDGEMENTS

This study was conducted within the framework of the LivestockPlus project as part of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit ccafs.cgiar.org/donors. The views expressed in this document cannot be taken to reflect the official opinions of these organisations. This work was conducted as part of the CGIAR Research Program on Livestock, and is supported by contributors to the CGIAR Trust Fund. CGIAR is a global research partnership for a food-secure future. Its science is carried out by 15 Research Centers in close collaboration with hundreds of partners across the globe. www.cgiar.org. The authors would like to acknowledge support from the UK Research and Innovation (UKRI) Global Challenges Research Fund (GCRF) GROW Colombia grant via the UK's Biotechnology and Biological Sciences Research Council (BB/P028098/1).



