mate-smart grasslands management: Adapting to climate variability, reducing vulnerability of ducers, and advancing toward inclusive low-carbon "green growth" in Uruguay

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WCRP Conference for
Latin America and the Caribbean:
Developing,linking and applying climate knowledge

UNIVERSIDAD DE LA REPÚBLICA
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Background

Agriculture is critical for LAC.
Agriculture tied to LAC physical resource base and natural assets.
Great part of GHGs come from the agriculture sector.
Reports report:

- reduced yields in warmer environment
- growing incidence of heat waves
- increased heat stress
- Wildfires
- land degradation
- crop damage
- soil erosion,
- heavy precipitation events
- saltwater intrusion
- soil salinization

The impacts of CC on agriculture are expected to be substantial: natural resource base, livelihoods, economy, etc.
Lack of plans for resource management strategies

- public and private investments
- policy changes
- future capacity to respond tochanges
- Climate variability versus climate change

Background

- Uruguay grass-fed beef production
- Since 1600 – beef production
- Landscape with grasses and gentle hills
- Convergence of globally significant biodiversity
- 4 million hectares of savannah
- Livestock's adapted to this landscape
- Natural Resources:
  - Soil
  - Water
  - Pastures
- Droughts and floods: climate

Regional Effects in the Rural Sector

ected regional impacts of global warming and climate nge in Latin America

transformation of tropical forest to savanna lands

ransition from semi-arid vegetation to arid-and vegetation

ignificant biodiversity loss with species xtinction

erms of agriculture projected effects include

eclining productivity of some important crop nd livestock systems

dverse impacts on food security

hanges in precipitation patterns

vater availability disrupted for agriculture, uman consumption and energy generation

griculture and Climate Change Adaptation

terms of *adaptation, a wide variety of strategies are used in agriculture:*

- Response to climatic variability to benefit farmers.
- Knowledge about options to maintain production levels and yields by farmers (crops, cattle, water use, etc.)
- response to short-term climatic variations.
- long-term planned adaptations to help anticipate and minimize the

What the regional needs are

Climate information systems in place (Systems to enhance climate predictability)

Water management technologies adopted (Improvements in water collecvtion, drainage, irrigation distribution systems, maximize use of water in livestock production, etc.)

Better integrated management of natural resources and production systems (this includes water management, conservation agriculture, crop and pasture rotations, adjustment of planting dates, etc.)

Technological innovations to reduce climatic risks (biotechnology innovations to improve drought resistance and pests and disease resistance, invasive species, and improvements in irrigation infrastructure).

Institutional innovations with capacity built for early warning systems for climate (improved policy and regulatory frameworks for water management, agricultural and catastrophic risk insurance, etc.).

Bottom-up participatory processes for climate change adaptation and reduce threats to climate variability.

hat can be done today to improve the management of climatic risks and improve the adaptation?

dentificate Vulnerabilities and Opportunities (with the agriculture sector)

Reduce Uncertities *(learn from the past, monitor e present and information for the future)*

dentify technologies to reduce vulnerabilities *Diversify, store and efficient use of water, genetics, c.)*

dentify institutional architecture and policy terventions to reduce or transfer risks

stems for early alert and response systems

nsurance, recovery loans, etc.

nstitutional arrangements & specific policies

Challenges of Agriculture and Climate Change

- nter and intra-institutional coordination for Policies
- Technologies available and duly ested to face mitigation and adaptation
- Technical capacity to face echnological challenges
- Capacity to promote public-private coallitions
- Capacity to provide bottom-up capacity for understanding variability and be prepared to face it.
- Sustainability of actions

Advances in Uruguay

- Strategies and mechanisms to responsibly capitalize on its natural resources
- Market opportunities presented by increasingly aware and demanding consumers.
- Improvements in NRM and climate change adaptation practices
- On-farm agro-environmental and climate-smart investments
- The PPR & DACC
- Matching grants given to “family farmers”
- Enabling the institutional environment

Key indicators for the relationship

5% (4,600) of Uruguayan family farmers adopted conomically, climate-smart and environmentally ustainable practices.

..integrated soil, water, and biodiversity management

..5,300 on-farm sub-projects

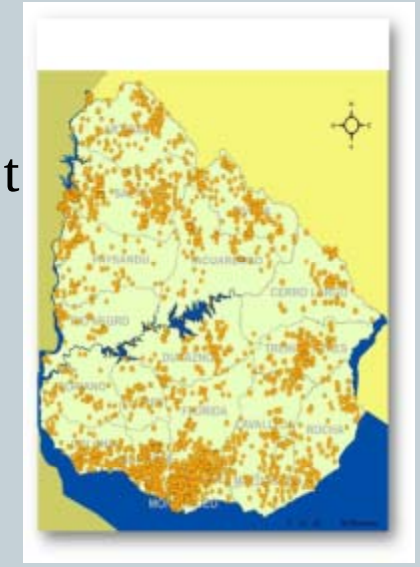
80,000 hectares of agricultural landscapes hroughout the country (5% of Uruguay's productive rea).

educed vulnerability and promotion of adaptation trategies.

Catalyst for "biodiversity-awareness" building in both he private and public sectors

mportant behavioral changes for mainstreaming iodiversity in production/management decisions.

DACC and the present situation...



General aspects developed

ain issues requested

Management of erosion

Soil degradation

Vegetation management

Agrochemical management

rrigation and water upply

Landscape management

Practices developed

- Dams
- Wells
- Zero tillage
- Grassland improvement
- Shelter forests
- Tourism-oriented
- Invasive species

ctivities financed in all productive systems

Actividad	Nº de propuestas aprobadas
ejo conservacionista del suelo: siembra directa, abonos verdes, enmiendas orgánicas, etc.	1.223
Nuevas fuentes de agua: pozos, tajamares, pólder (producción animal y producciones intensivas)	3.561
o de efluentes de tambo: construcción y/o reparación de nchadas en corrales de espera, piletas, distribución de efluentes a campo (bombas estercoleras)	596
anejo del campo natural: fertilización, mejoramientos, siembras en cobertura , subdivisiones, etc.	1.742
Montes de sombra y abrigo para el ganado	484
servación de biodiversidad: conservación de especies liosas de nuestra fauna y flora, registros y manejo de	382

And what is currently being done for:

Adapting to climate variability
reducing vulnerability of producers, and
dvancing toward inclusive low-carbon "green
wth"

- Knowledge management for decision-making (public and private)
- nvestments at the farm and multi-farm level.
- Bottom-up capacity building and support to ssociative instances
- Modernization of soil, water and climate nstitutions
- Strategic alliances (private, public, civil ociety).

Thanks a lot



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