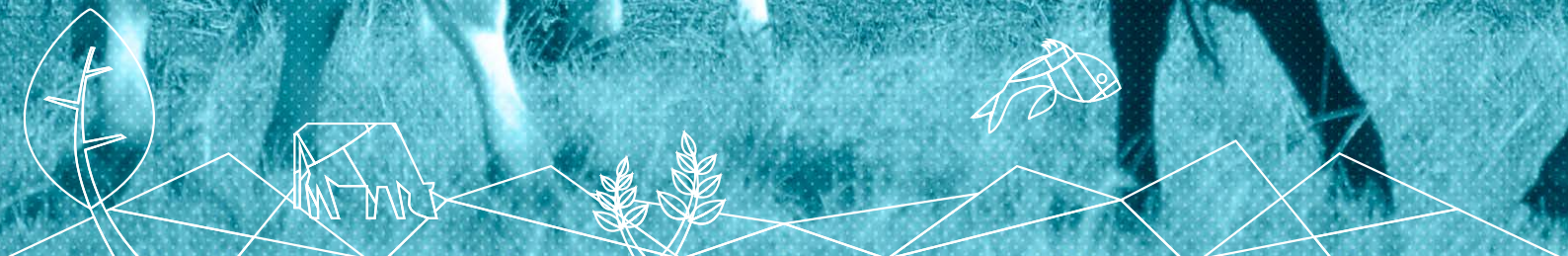




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Integrating Agriculture in National
Adaptation Plans (NAP–Ag) Programme

*Safeguarding livelihoods and promoting
resilience through National Adaptation Plans*

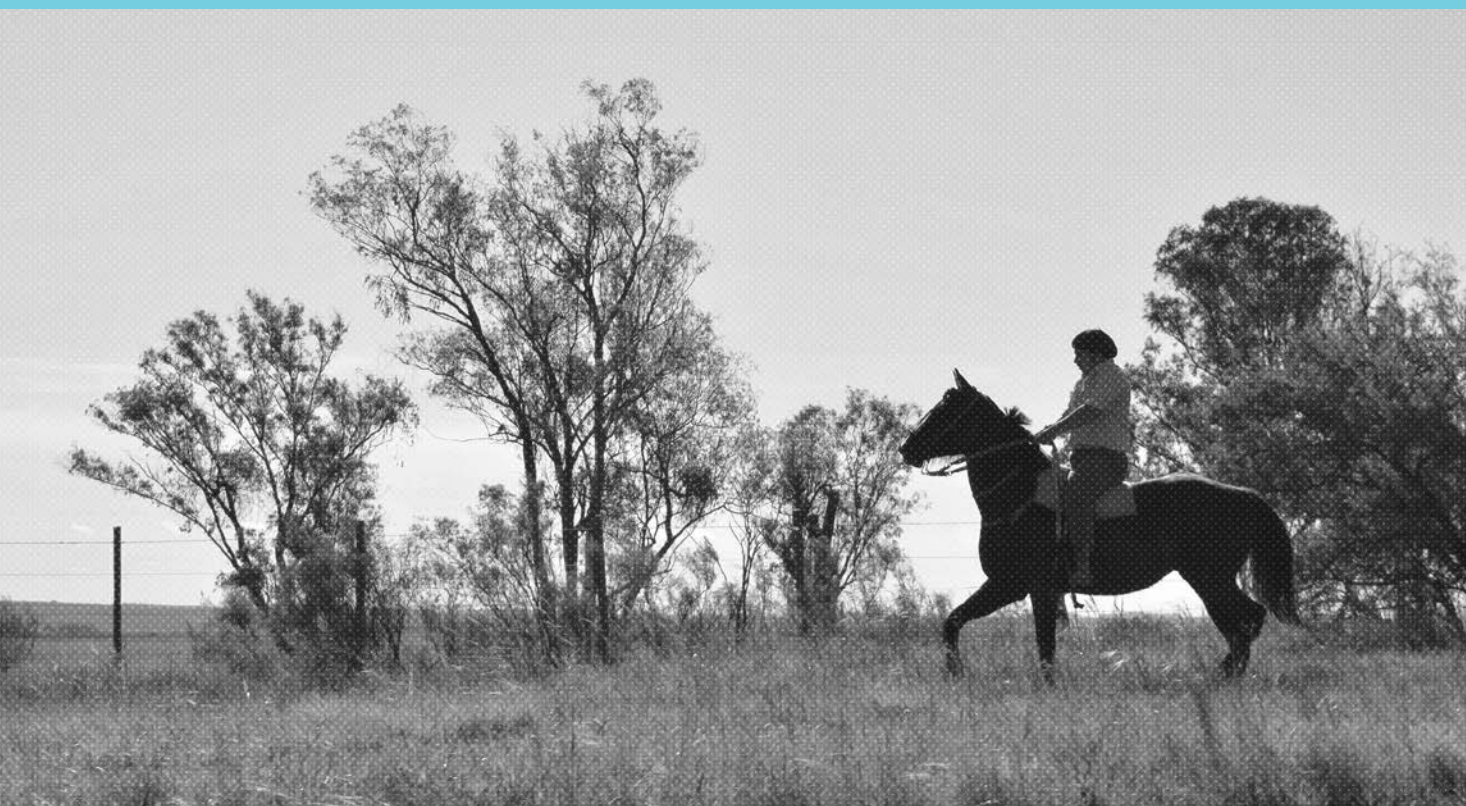
July 2017

Case study

Uruguay

Contents

Highlights.....	3
Case study objectives.....	4
Adaptation and the Paris Agreement.....	5
Climate change & agriculture.....	6
Frameworks & institutions.....	7
Agriculture adaptation planning process.....	9
NAP–Ag programme support.....	11
Lessons learned so far.....	14
Further information.....	15



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Highlights

- ➔ The agricultural sector is a mainstay of the Uruguayan economy, contributing seventy percent of exports and seven percent of the Gross Domestic Product (GDP). The sector has experienced a period of rapid growth, intensification and modernization over the last decade.
- ➔ Agricultural production remains vulnerable to climate change and climate variability, with extreme events such as floods and droughts becoming more intense. Projections indicate that there will be an increase in the duration of heat waves and a significant increase in the intensity of the precipitation this century.
- ➔ Uruguay has developed an advanced suite of climate change policies, strategies and plans. The country has committed to ambitious and quantified sectoral mitigation targets to be achieved by 2030.
- ➔ In 2016 the Ministry of Livestock, Agriculture and Fisheries (MGAP) began the process of developing a National Adaptation Plan (NAP) specifically for the agricultural sector (Agriculture NAP). The formulation of the NAP will be finalised in 2018.
- ➔ This planning process builds on over a decade of national studies, awareness and consensus on the importance of climate change adaptation and the 2009 National System for Response to Climate Change and Variability (SNRCC).
- ➔ The Agriculture NAP will seek to clarify questions around which livestock, agriculture, forestry and fishery activities need to adapt, in which parts of the country, and how producers can effectively reduce their vulnerability and build their resilience to future climate uncertainties.
- ➔ This push to adapt the agriculture sector will contribute to Uruguay's economic and sustainability goals, as well as the National Policy on Climate Change (2017) and the country's National Determined Contribution (NDC) commitments under the Paris Agreement.
- ➔ The UNDP–FAO NAP–Ag programme in Uruguay is working with the Sustainability and Climate Change Unit of the MGAP, and in close coordination with other ministries and government bodies, to support the formulation of the Agriculture NAP.
- ➔ Since mid-2016, the NAP–Ag programme in Uruguay has supported three assessments to review climate change impacts and adaptation options; map stakeholders to be involved in the Agriculture NAP process; and identify capacity needs within the government and amongst agricultural producers.
- ➔ The NAP–Ag programme in Uruguay is now working with the MGAP on: cost benefit analysis of adaptation alternatives; impact assessment of adaptation policies; consultations with dairy, family farming, forestry, irrigated rice, fisheries, fruit and vegetable, agriculture and livestock producers; development of indicators to track and monitor adaptation; and strengthening inclusion of gender dimensions within the Agriculture NAP.

Case study objectives

This country case study on Uruguay is one in a series that describes the steps taken to formulate and implement National Adaptation Plans (NAPs). The case studies focus on adaptation in agriculture, which includes forestry, livestock and fisheries. The series aims to provide national policy makers with valuable information from counterparts in Asia, Africa and Latin America who are on the same NAP journey to tackle the multiple challenges posed by climate change.

Each case study further describes the contribution and lessons learnt from the UNDP – FAO programme *Integrating Agriculture in National Adaptation Plans (NAP–Ag)*, which is funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). The value of this work to achieving national and international development and climate change goals (e.g. particularly the Paris Agreement and the Sustainable Development Goals) is also presented.

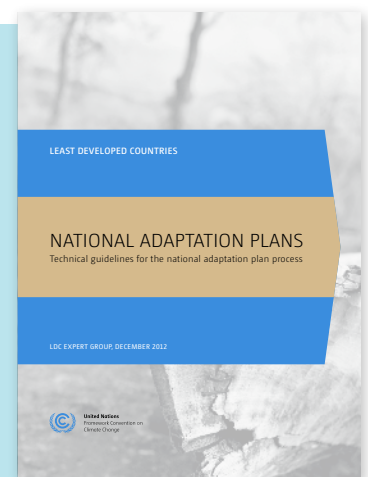
The case study series also shows the links between the country-led NAP processes and the NAP–Ag programme activities and resulting impacts. Given that the NAP–Ag programme in Uruguay has only been running since mid-2016, it is too early to assess the results, however lessons can be drawn from the suite of activities that are being developed at the national level. The preparation of this case study is based on interviews with the UNDP – FAO NAP–Ag country coordinator, UNDP and FAO staff, representatives from national Ministries (e.g. Ministry of Housing, Land Planning and the Environment; Ministry of Livestock, Agriculture and Fisheries), as well as extensive review of country reports and publications.

Box 1

National Adaptation Plans (NAPs)

National Adaptation Plans were established in 2010, as part of the Cancun Adaptation Framework to enhance urgent action on adaptation, and were adopted by Parties to the United Nations Framework Convention on Climate Change (UNFCCC) (Decision 1/CP.16.). NAPs enable countries to identify, prioritize and implement the most needed medium- and long-term adaptation strategies and programmes. They aim to:

- reduce vulnerability to climate change by building adaptive capacity and resilience; and
- ensure that climate change adaptation is integrated into development planning in all sectors and at all levels of planning within the country.



Adaptation and the Paris Agreement

The 2015 Paris Agreement recognizes the urgent need for adaptation in our global response to climate change. Most of the Intended Nationally Determined Contributions (INDCs), submitted to the UNFCCC prior to the Paris Agreement, and the Nationally Determined Contributions (NDCs) submitted following the entry into force of the Agreement, include countries adaptation goals, priorities, actions and needs.

Uruguay submitted its INDC on 29 September 2015. It emphasizes both mitigation and adaptation actions, and quantifies ambitious sectoral mitigation targets to be achieved by 2030. The INDC emphasizes the critical need for adaptation in the food and agriculture sector, as well as the progress made through existing adaptation actions in the agriculture sectors, such as the:

- Design and implementation of adaptation measures in cattle production, including water sources, feed and rangeland management measures;
- Development of soil use and management plans to reduce erosion and preservation of organic matter in croplands;
- Development of research and data collection programmes; strengthening of weather, climate and water services; development of information systems, climate services and monitoring programmes.

The Uruguay INDC (2015) also defines a wide variety of adaptation actions to be achieved by 2030, including the “development and implementation of national, regional and sector-specific participatory climate change and variability adaptation plans, and incorporation of monitoring and reporting systems on adaptation and loss and damage”. The INDC specifically calls for the design of sector-specific NAPs, with medium and long-term strategies and programmes, in key sectors such as agriculture.

Following the ratification and entry into force of the Paris Agreement on 4 November 2016, Uruguay opted to submit a revised Nationally Determined Contributions (NDCs) that builds on the INDC submitted in 2015. The participatory process to finalise the NDC is currently underway and is expected to be completed by the 23rd session of the UNFCCC Conference of the Parties (COP 23) in November 2017.

“Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development.”

(UNFCCC (2015) Article 7 of the Paris Agreement)

Box 2

Climate change and the Sustainable Development Goals (SDG)

Climate change has major implications for each of the 17 Sustainable Development Goals (SDGs). National Adaptation Plans (NAPs) have an important role to play in achieving the SDGs and 2030 Agenda for Sustainable Development. In the agricultural, livestock and forestry sectors, adaptation can contribute to sustainable food production systems as well as the development of resilient agricultural practices, and ultimately to SDG Goal 2 to achieve Zero Hunger. The SDG Goal 13 on climate change, explicitly highlights adaptation as a key mechanism to combat climate change and its impacts, with targets to:

- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters.
- Integrate climate change measures into national policies, strategies and planning.
- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Climate change & agriculture

The agricultural sector, and particularly livestock farming, play a major role in the Uruguayan economy. The sector accounts for 7 percent of the gross domestic product (GDP), and when all associated activities are included, contributes up to 25 percent of total GDP. Importantly, seventy percent of total exports come from the agriculture sector. Whilst Uruguay's population is one of the smallest in Latin America, with only 3.3 million people, the total agricultural production is estimated to feed 28 million people. For example, the country has one of the highest numbers of cattle per capita, with 12 million cattle and 7 million sheep.

Over the last decade, the agricultural sector has experienced a period of rapid growth, intensification and modernization. However, agriculture production remains highly exposed to climate change and climate variability, with floods and droughts during the same period becoming more intense. The results from a set of global models project an average temperature increase of 2 to 3°C for the region, and an increase of 10 to 20 percent in the annual precipitation, by the end of the 21st century. Projections also indicate that there will be a slight decrease in the number of days with frost; a significant increase in the number of warm nights; an increase in the duration of heat waves and a significant increase in the intensity of the precipitation. The impacts will be felt differently within Uruguay's diverse land-use patterns and production systems, whether crops (wheat, soybean, rice, maize), fruit (citrus, viticulture), grasslands (e.g. beef, dairy, sheep), horticulture or forestry (natural and plantation). Adaptation strategies and practices will therefore need to differ between each of these sectors.

Reconciling national economic objectives to produce more food and primary products in more efficient and competitive ways for export, whilst at the same time meeting national sustainability objectives to minimize environmental impacts and reduce the intensity of greenhouse gas (GHG) emissions, poses a number of challenges. For example, the agriculture sector currently contributes approximately 75 percent of Uruguay's total GHG emissions, with methane from enteric fermentation accounting for more than half of these emissions. In addition, Uruguay must build resilience and reduce vulnerability to climate change and climate variability in order to achieve both economic and sustainability goals. The effective development and implementation of NAPs will play a critical role in this process.

6

“Uruguay is highly sensitive to droughts, it has low-lying coastal areas, as well as areas which are prone to climate related disasters, such as floods. Adaptation becomes particularly important when it comes to food production, which is a core activity for the domestic economy and is highly sensitive to climate.”

[Uruguay Intended Nationally Determined Contribution](#) (2015, p.8)



Frameworks & institutions

Uruguay ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 and the Kyoto Protocol in 2001. It has submitted four [National Communications](#) under the UNFCCC, in the years 1997, 2004, 2010 and 2016. The Table below lists key climate specific national policy documents and milestones since 1994.

Table 1

Key national climate planning processes and policies

Year	Title
1994	Establishment of the Climate Division in the Ministry of Environment
2000	Establishment of a Climate Unit in the Ministry of Agriculture
2004	Program of General Measures for Mitigation and Adaptation to Climate Change in Uruguay (2004)
2009	National System for Response to Climate Change and Variability (SNRCC)
2010	National Climate Change Response Plan (PNRCC)
2015	Intended Nationally Determined Contribution (INDC)
2017	Establishment of the Water, Environment and Climate Change Secretariat (SNAACC), National Environment System (SNA), National Environment Cabinet (GNA)
2017	National Climate Change Policy (PNCC)

In 2009, Uruguay established a National System for Response to Climate Change and Variability (SNRCC), which brings together 11 Ministries, as well as the Uruguayan Institute of Meteorology, the Congress of Intendants and the National Emergency System, and the Office of Planning and Budget of the Presidency, to coordinate and plan risk prevention, mitigation and adaptation to climate change. The SNRCC operates under the Climate Change Division (DCC) within the Ministry of Housing, Land Planning and the Environment (MVOTMA). The National Plan for Response to Climate Change (PNRCC) was the main instrument of the SNRCC to incorporate and implement climate change action until the release of the National Policy for Climate Change in 2017.

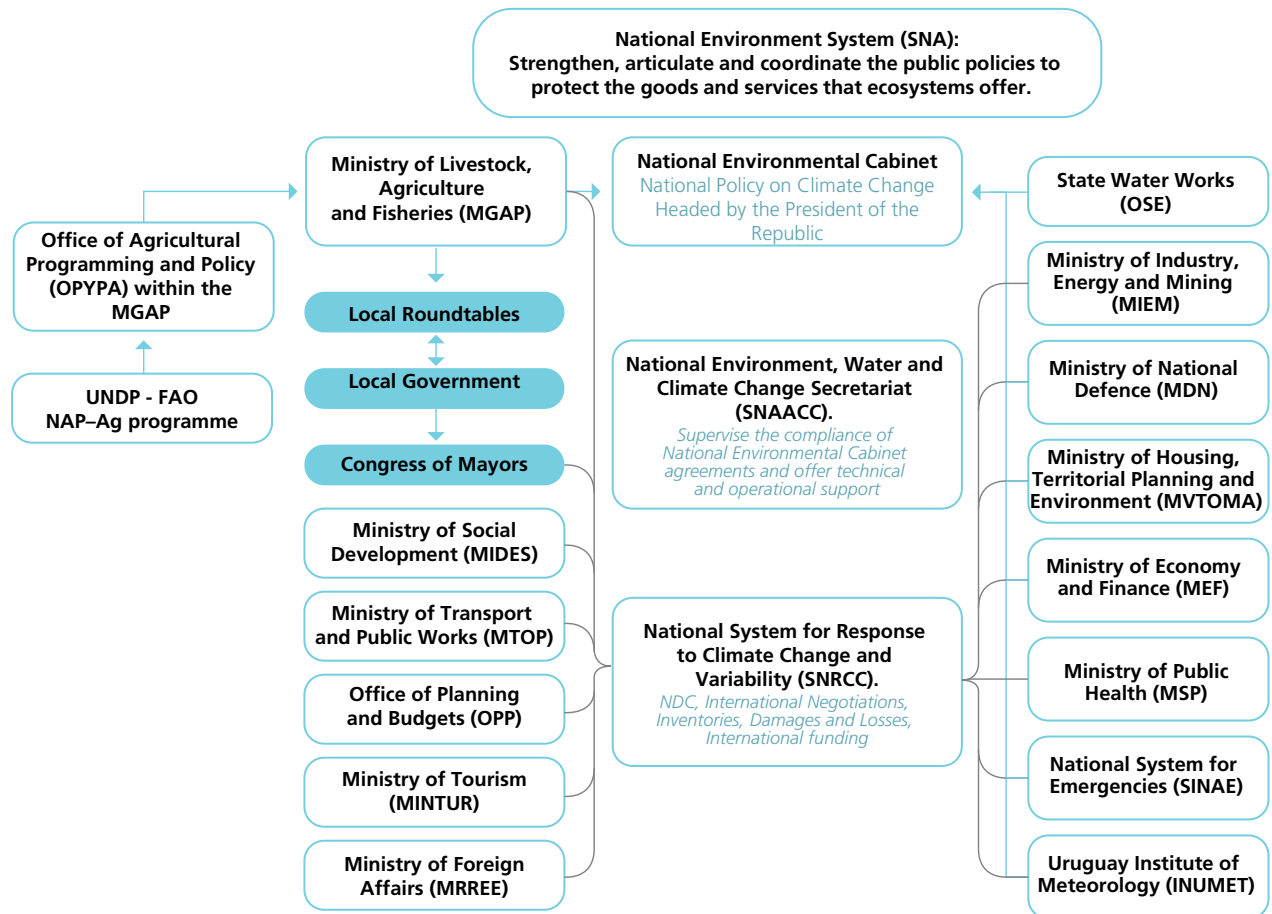
In 2016, a [National Environmental Cabinet](#) attached to the Presidency of the Republic was established, with the objective of coordinating the implementation of environmental, water and climate change action. In the same year, the SNRCC initiated an extensive and participatory process to elaborate a [National Climate Change Policy \(PNCC\)](#) with a view to strengthening and guiding future climate mitigation and adaptation work. The PNCC was finalized and approved on 27 April 2017 and seeks to achieve a low carbon and climate resilient development model for Uruguay, is applicable to all sectors of the economy and seeks to ensure compliance with commitments within the 2015 Paris Agreement.

“Our National Climate Change Policy allows us to take a long-term view and also to know that climate change is not an exclusive issue for one economic sector or institution, but actually touches all ministries, local government, civil society and the private sector. Without this consensus, and a national strategic framework, then we cannot all head in the same direction.”

Ignacio Lorenzo, Climate Change Director, Ministry of Housing, Land Planning and the Environment

Figure 1

Uruguay institutional framework for climate change coordination



8

A representative from the Uruguay Ministry of Livestock, Agriculture and Fisheries (MGAP) is Vice President of the SNRCC and National Environmental Cabinet. The MGAP has prioritized climate change adaptation in its medium- and long-term planning. In 2000, the MGAP created a specialized Climate Change Unit within its Office of Agricultural Programming and Policy (OPYPA), to strengthen and advance technical, policy and monitoring work on agriculture and climate change. In 2016, this Unit was renamed the Agricultural Sustainability and Climate Change Unit (USyCC) and is the main interlocutor for UNDP and FAO support on adaptation planning.

Agriculture adaptation planning process

Uruguay is currently developing sector-specific National Adaptation Plans (NAP) in three priority areas (i.e. rather than a nationwide adaptation plan that covers all sectors) namely:

- NAP for Coastal Areas (Coastal NAP) – formulation stage
- NAP for Cities and Infrastructure (City and Infrastructure NAP) – design stage
- NAP for Climate Change and Climate Variability in the Agricultural Sector (Agriculture NAP)

On 7 July 2016, Tabaré Aguerre, the Minister of Livestock, Agriculture and Fisheries, formally announced the preparation of the Agriculture NAP at an adaptation launch workshop organized with UNDP and FAO and with the participation of MVOTMA and other institutions with agriculture climate change adaptation responsibilities. The aim is to structure, define and

coordinate existing and new adaptation efforts with a view to finalizing a consolidated Agriculture NAP by the end of 2018. It will be the primary adaptation mechanism to achieve agricultural sector contributions in the NDC and the *National Climate Change Policy* (2017).

The Agriculture NAP will seek to clarify questions around which livestock, agriculture and fishery activities need to adapt, in which parts of the country, and how producers can effectively reduce their vulnerability and build their resilience to climate change. The NAP will develop both institutional and producer capacities on climate adaptation and assist producers putting into practice the most appropriate adaptation measures. Further investigation and transfer of technology will be encouraged, as will monitoring of progress during adaptation. The Agriculture NAP will be a platform from which to seek external adaptation finance (e.g. Global Environment Facility, Green Climate Fund), particularly to support adaptation by the most vulnerable producers, as well as to ensure that climate change is included in Uruguay’s economic and budgetary planning processes. It will also seek to build and strengthen understanding and inclusion of gender dimensions within the Agriculture NAP process in Uruguay, through studying and monitoring women and men’s roles in selected agricultural sectors.

The MGAP is the lead Ministry responsible for the Agriculture NAP, working in close coordination with the MVOTMA, the Uruguay Agency for International Cooperation (AUCI) and the Office of Planning and Budget of the Presidency (OPP). To be effective, the development and implementation of Agriculture NAP requires a high level of participation by public, private and civil society organizations and individuals. The 2016 launch workshop emphasized this participatory approach and the Table below summarizes key organizations involved in this process. A monitoring committee has also been established to review progress in the development of the Agriculture NAP, which includes MGAP, MVOTMA, OPP, AUCI, FAO and UNDP.

“The planning process must lead to a vision of how the agricultural sector should be in 2030 or 2050. We must identify goals, a system of policies and actions that help achieve those goals and a system of indicators to show how we are progressing towards those goals.”

Walter Oyhantcabal, Director of the Agricultural Sustainability and Climate Change Unit, OPYPA, Ministry of Livestock, Agriculture and Fisheries

The Agriculture NAP intends to build on an extensive body of climate adaptation research, projects and studies developed by the MGAP in Uruguay with partner Organizations such as FAO. The Table below highlights a selection of major initiatives, which cover soil management, irrigation practices, water management, risk assessment, national information systems etc. which all underpin the adaptation planning process.

The UNFCCC *Technical Guidelines for the National Adaptation Plan Process* (2012) lay out four steps in the preparation of a NAP, namely:

Element A – Lay the groundwork and address gaps	Element C – Implementation strategies
Element B – Preparatory elements	Element D – Reporting, monitoring and reviewing

Table 4 shows the degree to which Kenya has progressed in this process. The text highlighted in red or blue are those areas where the NAP–Ag programme has already provided (red) or is expected to provide (green) support.

Table 2

Overview of organizations involved in the agriculture NAP

Organizations	Thematic area	Role in Adaptation Planning
Agricultural Sustainability and Climate Change Unit, OPYPA, MGAP	Agriculture	Planning, policy design, impact assessment, emission inventories
Rural Development Direction, MGAP	Agriculture	Policy implementation at territorial level
Natural Resources Division, MGAP	Environment	Water use and soil conservation policies.
Forestry Division, MGAP	Forestry	Afforestation policy and native forest conservation
Environment Division and Climate Change Division, MVOTMA	Environment	Policy coordination, focal point to UNFCCC and international negotiations, chairs the SNRCC
National Dairy Institute	Agriculture	Improving the dairy value chain
National Agricultural Research Institute	All agricultural sectors	Research and development of technology
Farmer Unions, Producer Cooperatives and Civil Society	Stakeholders in all agricultural sectors	Target beneficiaries of public policies
Specialized Meeting of Family Farmers (REAF)	Family farmers of all agricultural sectors	Represents the interests of family farmers
University of the Republic	Agriculture	Academic and research activities
Institute of Women Affairs of the Ministry of Social Development	Social development	Helping integrate the gender dimension
Agricultural Institute of Extension Services	Livestock	Extension service for livestock producers
Division of horticulture, fruit and small animal production, MGAP	Agriculture	Policies and programmes for vegetable, fruit and small animal farming.
Local Fishing Councils of the Division of Aquatic Resources, MGAP	Fisheries	Policies for fisheries

10

NAP–Ag programme support

The UNDP – FAO programme to support the Integration of Agriculture into the National Adaptation Plan (NAP–Ag programme in Uruguay) plays a key role in supporting and coordinating the development of the Agriculture NAP through to the end of 2018. The Programme works directly with the Sustainability and Climate Change Unit (USyCC), in the Office of Agricultural Programming and Policy (OPYPA) of the MGAP and with the other national institutions involved in the process. The Text Box 3 summarizes the four anticipated major areas of work within the NAP–Ag programme in Uruguay.

“The NAP–Ag programme is catalyzing a number of national initiatives and programmes towards more resilient and adaptative agricultural systems that are less vulnerable to climate change. By customizing the work plan to the national needs the Programme can effectively strengthen the institutional capacities and address capacity gaps”

Cecilia Jones, National Coordinator of the NAP–Ag, FAO Uruguay

Table 3

Major agriculture climate related adaptation projects in Uruguay

Year	Title
2010 - 2013	New Policies for Adapting Agriculture to Climate Change (TCP / URU / 3302) FAO Technical Cooperation Programme
2011 - 2018	Sustainable Management of Natural Resources and Climate Change Project. World Bank
2012 – 2017	Building resilience to climate change and variability in vulnerable small producers Adaptation Fund of the Kyoto Protocol
2012 – 2017	Rural Productive Development Program Inter-American Development Bank
2018 – 2022	Climate-smart Livestock Production and Land Restoration in the Uruguayan Rangelands Global Environment Facility
2016 – 2017	Low Carbon Development of the Beef Cattle Sector in Uruguay. FAO and & New Zealand Agricultural Greenhouse Gas Research Centre and the Climate and Clean Air Coalition (CCAC)

Table 4

Status of the Agriculture NAP Formulation and Implementation in Relation to the UNFCCC NAP Technical Guidelines

Step	A. Laying the ground work and address the gaps	
1	Launching the formulation and implementation of the NAP	Completed
2	Formulate mandate for it	Completed
3	Define institutional arrangements and coordination mechanism	Completed
4	Consult and engage stakeholders	Completed
5	Synthesize available information, stocktaking of relevant activities and assess gaps and needs	Completed
Step	B. Preparatory elements	
6	Analyze past climate and CC scenarios	Ongoing
7	Comprehensively assess climate vulnerability (science & knowledge)	Ongoing
8	Undertaking activities on integrating adaptation into national and subnational development planning	Not started
9	Identifying adaptation options to address key vulnerabilities	Ongoing
10	Appraising, prioritizing and ranking adaptation options	Ongoing
Step	C. Implementation strategy	
11	Formulate national and subnational plans and budgets to integrate adaptation into the agricultural sectors	Ongoing
12	Prioritizing CC adaptation in national and subnational planning	Ongoing
13	Synthesize available information, stock-taking of existing agricultural sector initiatives, policies, development plans, and programs	Completed
14	Implementing and managing actions in NAPs to reduce vulnerability through policies, projects and other activities	Not started
Step	D. Reporting, monitoring and review	
15	Designing/applying a monitoring and evaluation framework or system	Ongoing
16	Communicating progress on the formulation and implementation of the NAP	Ongoing
17	Monitoring and periodically reviewing the NAP process	Not started
18	Iterative updating of the NAP	Not started

Box 3**NAP–Ag programme outcomes**

1. **Strengthen technical capacity** – Building up partner countries' use of appropriate tools and analyses to assist ministries with investment planning and budgeting (e.g. training in cost-benefit of adaptation alternatives, evaluation of adaptation policies,).
1. **Develop integrated roadmaps for NAPs** – Strengthening the technical capacity of individuals and institutions to develop a roadmap of economically viable, gender-responsive, medium and long-term adaptation options for the agriculture sectors (e.g. consultation dialogues, incorporating the Agriculture NAP into national development strategies).
1. **Improve evidence-based results for NAPs** – Developing and introducing impact assessment frameworks for the agriculture sectors, which generate evidence-based results that can be used in policy processes (e.g. cost-benefit studies, adaptation indicators and monitoring, analysis and reporting of gender aspects).
2. **Promote agricultural NAPs through advocacy and knowledge-sharing** – Sharing and providing information to other countries and sectors on how to integrate adaptation needs into national planning and budgeting processes.

Key activities undertaken by the NAP–Ag programme in Uruguay with the MGAP between mid-2016 and mid-2017, as well as those that are ongoing, include:

Assessments

Stocktaking Report - Uruguay National Adaptation Plan for Variability and Climate Change (2016) – This report reviews and compiles relevant information on adaptation as the basis for the Agricultural NAP. It provides a summary of the the main agricultural sectors (e.g. livestock, dairy, agriculture, rice, forestry, horticulture and fisheries) in Uruguay, possible climate change impacts on each and their potential to adapt. It also reviews the current institutional arrangements and policies, and identifies gaps and barriers to elaborating the Agricultural NAP. The NAP–Ag programme in Uruguay and the Sustainability and Climate Change Unit of the MGAP drafted and published this extensive review.

Stakeholder Map for the National Adaptation Plan for Variability and Climate Change in the in the Agricultural Sector (2016) – See Annex II (p.52) This work provides a thorough review and assessment of the stakeholders that should be involved and consulted in the Agriculture NAP planning process, as well as the different perceptions of climate change and variability within the different producer sectors. The final report identifies 304 actors and 80 organizations in six sectors of relevance in the development of the Agricultural NAP. The NAP–Ag programme in Uruguay developed the study with the Agricultural Sustainability and Climate Change Unit of the MGAP.

Capacity Assessment Report (2016) – The assessment sought to characterize and evaluate the strengths and weaknesses of the current institutional and political environment for managing climate change adaptation in the Uruguayan agricultural sector. It identifies knowledge gaps and capacity building needs. Priority areas requiring capacity building include: climate scenarios; adaptation indicators; systems to measure loss and damage; multi-criteria and cost-benefit analysis; impact assessment evaluation of public programmes and policies; and collection of sex disaggregated statistics. To address these gaps, a partnership has been created with the Interdisciplinary Center for Response to Climate Change and Climate Variability (CIRCVC) at the University of the Republic.

Consultation

Adaptation Dialogues (2017) – Effective consultation is a critical element in the development of the Agriculture NAP in Uruguay. A series of nine Adaptation Dialogues with the dairy, family-farming, forestry, irrigated rice, fisheries, horticulture and fructiculture, agriculture and livestock sectors are taking place in 2017 as part of the NAP–Ag programme in Uruguay. These consultation sessions address questions around climate change impacts, adaptation options, concerns and experiences so far. The Dialogues are a space for producers, companies, civil society,

academia, and government representative to meet and build a common vision for the Agriculture NAP. The outcomes from the Dialogues, which are being co-hosted and organized with the stakeholders from each production system, will feed into the adaptation planning processes of the agriculture sector (See Text Box).

Box 4

Family Farming Adaptation Dialogue – May 2017

Approximately 60 percent of agricultural production in Uruguay is run on a family basis. The NAP–Ag program in Uruguay seeks to gather the views, concerns and experiences of family farmers on climate change impacts and adaptation options and integrate these learning's into the Agriculture NAP process. One of the nine Adaptation Dialogues focused specifically on bringing together family producers.

The Dialogue was organized with the national section of the Specialized Meeting on Family Farming (REAF) of MERCOSUR (Southern Common Market). It involved over 40 farmers, including crop producers, dairy farmers, livestock farmers, fishermen, sheep farmers, as well as fruit and horticulture producers. Producers highlighted the unpredictable nature of annual droughts and periods of excess rainfall. Actions specific to each agriculture sector were identified, as well as ones that could be of benefit to multiple sectors (e.g. development of water storage systems).

“Through a series of sectorial dialogues – with broad participation of producers, key ministries, technical staff and academic experts – the NAP–Ag Programme in Uruguay is identifying and proposing the best adaptation options for the agriculture sector for the medium and long term. These will constitute the basis for building more resilient agricultural systems.”

Magdalena Preve, Programme Associate (Sustainable Development Area), UNDP Uruguay

Studies & frameworks

Study of Adaptation to Climate Change and Gender (2017 ongoing) – The NAP–Ag programme in Uruguay is building and strengthening understanding and inclusion of gender dimensions within the Agriculture NAP planning process. The research combines qualitative and quantitative survey methods and will generate sex-disaggregated rural statistics, as well as indicators on the contribution of women to rural production and issues such as how climate adaptation strategies and perceptions differ between women and men in dairy, livestock and vegetable production sectors. The work is being carried out with MGAP, MVOTMA and the Institute of Women Affairs of the Ministry of Social Development.

Impact Evaluation Framework (2017 ongoing) – To assess the effectiveness of agricultural adaptation and mitigation policies and programmes, the NAP–Ag programme in Uruguay is providing training in impact evaluation approaches. The aim is to build reliable evidence on the value of alternative public adaptation approaches and a protocol that can be used to improve the design of future projects. This work will feed into the Agriculture NAP formulation and implementation processes and will contribute to measuring the progress and impact of adaptation work.

Cost-Benefit Analysis (2017 ongoing) – To understand and compare the benefits and drawbacks of alternative adaptation options, the NAP–Ag programme in Uruguay is supporting the use of cost-benefit studies. Initially these studies will focus on assessing livestock and supplemental irrigation adaptation options. The development of a national cost-benefit framework, and training sessions on cost-benefit analysis, will help standardize this approach and provide evidence that will feed into Uruguay's NDC and Agricultural NAP.

Adaptation Indicators in Agriculture (2017 ongoing) – the NAP–Ag programme in Uruguay is supporting the development, with the South American Institute for Resilience and Sustainability (SARAS2), of a matrix of indicators to track and monitor adaptation in agriculture. These indicators will be integrated with the NDC and the Sustainable Development Goals by 2030. It will be used at the sectoral level by MGAP to measure adaptation progress, and along with the indicators from the Coastal NAP and Cities and Infrastructure NAP, will form part of national efforts to measure adaptation.

Capacity building

Training in Climate Modelling with MOSAICC (2017 ongoing) – The first of three training modules in the use of the FAO Modelling System for Agricultural Impacts of Climate Change (MOSAICC) model took place in March 2017. The training and modelling of scenarios will help improve understanding and provide data to measure and assess climate change impacts in the agriculture sector. The training involves national experts from both government agencies and academia. The MOSAICC will be used for climate modelling and to develop climate scenarios that will feed into national decision-making and planning.

Lessons learned so far

Whilst the NAP–Ag programme in Uruguay has only been underway for a short period of time, considerable progress has been made since the inception workshop in July 2016. Initial lessons from this process, which may also be of value to countries developing sectoral adaptation plans, include:

- **Agriculture Sector Consultation** – Working with each agricultural sector (e.g. dairy, family farming, forestry, rice, fisheries, agriculture, livestock) through the Adaptation Dialogues, recognizes the diversity of agricultural systems and ensures that issues, priorities, concerns and adaptation technologies are relevant and specific for producers. Working closely with producer associations is important to ensure member participation and to build long-term support and validation of the Agricultural NAP process. The Agriculture NAP will therefore have the necessary buy-in that will be essential for implementation and to focus extension, technical assistance and technology transfer appropriately.
- **Embedded within Government** – The NAP–Ag programme in Uruguay team is based in the Unit for Sustainability and Climate Change of the Office of Agricultural Programming and Policy of the MGAP, which makes it easier to develop close relationships with the government economists, policy analysts and technical staff. Information generated by the NAP–Ag programme in Uruguay is easily and directly shared and discussed with MGAP. This helps ensure that the work is relevant and owned by the MGAP, integrated within the Agricultural NAP and NDC and contributes to the National Climate Change Policy.
- **Evidence-Based Policies** – The NAP–Ag programme in Uruguay emphasises the importance of evaluating and comparing alternative adaptation measures and the effectiveness of policies based on solid evidence. Developing and providing training in impact evaluation and cost-benefit analysis to generate this evidence-base will ensure that the Agricultural NAP is well founded, receives greater support and is more likely to be integrated into national planning and budgeting.
- **Collaborating with Specialists** – The MGAP, with the support of the NAP–Ag programme in Uruguay, is establishing agreements and partnerships to draw on the expertise of specialist organisation. Agreements have been signed with the South American Institute for Resilience and Sustainability (SARAS2) to develop adaptation indicators and cost benefit analysis, and an agreement is being discussed with the University of the Republic to support capacity-building work.
- **Implementation and Adaptation Finance** – Even with best ideas, knowledge and plans in place, there is a need for both national and international finance to turn paper into practice. The Uruguay INDC states that external funds will be essential to meet mitigation and adaptation goals and the majority of MGAP climate change programmes to date have been financed through external loans, funds and projects. The NAP–Ag programme in Uruguay and the Agriculture NAP process will identify medium- to long-term adaptation needs and strategies and programmes to address them, whilst providing the platform from which to budget for and attract sustainable sources of national and international finance for adaptation.

Further information

NAP–Ag:

- www.fao.org/in-action/naps/partner-countries/uruguay
- www.adaptation-undp.org/naps-agriculture/partner-countries/uruguay

Guidelines:

- [UNFCCC National Adaptation Plan – Technical guidelines for the national adaptation plan process \(2012\)](#)
- [Addressing Agriculture, Forestry and Fisheries in National Adaptation Plans – Supplementary guidelines \(2017\)](#)

Uruguay:

- [National Policy on Climate Change \(PNCC\)](#)
- [Video: Launch event of Agricultural NAP \(in Spanish\)](#)

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Food and Agriculture Organization of the United Nations (FAO)

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United Nations Development Programme (UNDP)

- www.adaptation-undp.org/naps-agriculture
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Germany's Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)

- www.bmub.bund.de

International Climate Initiative (IKI)

- www.international-climate-initiative.com



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