Following the Paris Agreement, Paraguay undertook a rigorous and inclusive stakeholder participation process to ‘unpack’ the country’s Nationally Determined Contribution (NDC) targets, resulting in the identification of 110 specific actions to achieve these goals (UNDP, 2017). These actions continue to be reviewed and prioritised by sectors in working groups to this date. In order to ensure synergies with national development priorities, this effort was undertaken in the context of addressing the global Sustainable Development Goals (SDGs) and the National Development Plan Paraguay 2030. The process included representatives from all sectors at national and sub-national levels. Actions have been integrated into a draft NDC Implementation Plan that focuses on sector contributions as well as monitoring mechanism to quantify emissions through a national inventory system.

The process, led by the Ministry of Environment and Sustainable Development (MADES, for its Spanish acronym), is considered a good practice due to the participation of multiple stakeholders (public, private, academia and civil society), strong inter-sectoral cooperation, and the strengthening of sectoral emission reduction commitments as a result.
The total greenhouse gas (GHG) emissions of the Republic of Paraguay for the year 2015 were 51.3 million tons of CO2 equivalent. The sectors with highest emissions were agriculture (52.89%), land use change (30.72%) and energy (12.03%) (MADES et al., 2018). The country is vulnerable to climate change. Among the main climate change impacts are the loss of water resources, agricultural and livestock production, public health affectations and an increase in extreme weather events (SEAM et al., 2017).

Paraguay has taken a number of measures to address the challenges associated with climate change. The country has adopted a National Climate Change Policy that establishes government objectives to achieve its obligations under the United Nations Framework Convention on Climate Change (UNFCCC). The National Commission for Climate Change was created through Decree N°14.943 (República de Paraguay, 2001). The commission is a collegial body of inter-institutional nature and the deliberative and consultative instance of the National Climate Change Policy. It is chaired by the MADES and the Ministry of Foreign Affairs as vice president. Representatives of the public sector, including several ministries; the private sector (Paraguayan Industrial Union, Itaipú Binacional and the Rural Association of Paraguay); academia (National University of Asunción); and civil society (Network of Environmental Organizations) participate as members. Through the National Climate Change Law N° 5875-2017, the National Commission for Climate Change was ratified.

In 2015, the Republic of Paraguay submitted its Intended Nationally Determined Contribution (iNDC) to the UNFCCC. With the ratification of the Paris Agreement, Paraguay’s iNDC became its Nationally Determined Contribution (NDC), through which it commits to reduce GHG emissions by 20% in 2030 compared to a business as usual scenario. Although Paraguay’s NDC was developed under a participatory process, it did not sufficiently identify and outline the actions needed to fulfil its commitments.

The National Government of Paraguay prepared its National Climate Change Mitigation Plan and its National Climate Change Adaptation Plan in 2017. These plans serve as framework instruments to steer Paraguay’s efforts towards reaching its climate goals. They have been drafted in alignment with the National Development Plan Paraguay 2030, the country’s guiding instrument for development planning. The National Development Plan defines the strategic axes and objectives, the policy priorities and the action lines for inclusive and sustainable development in Paraguay.

The National Mitigation Plan presents a diagnosis of Paraguay regarding the country’s emissions profile and the mitigation programmes, projects and initiatives implemented. The strategic lines mainly address the diversification of the energy matrix and energy efficiency, sustainable renewable energies, forest plantations, forest management and agro-forestry practices. The cross-cutting axes of the plan include socialisation and education, institutional strengthening, a focus on gender, risk management and research. Additionally, the document identifies 7 Action Programmes aimed at reducing GHG emissions or sequestering carbon.

The National Adaptation Plan (NAP), on the other hand, presents the country’s progress on adaptation. It shows the vulnerability of the country and the main impacts of climate change in Paraguay. The plan developed the guidelines for sectoral plans, including: Agricultural production; water resources; energy, transportation and infrastructure; health; environment, forests and fragile ecosystems; and education.

Due to the lack of concrete guidelines to effectively fulfil the goals of its NDC, Paraguay decided to work exhaustively on its Implementation Plan. The purpose was to disaggregate its 20% contribution into measures that could be allocated to each sector, thus allowing for sectoral emission reduction goals.
The process of establishing an NDC Implementation Plan is led by the National Directorate of Climate Change of the MADES. Inter-ministerial meetings were held and working tables were set up to work on the NDC. In these meetings and working tables, members of the National Commission for Climate Change – including the public sector as well as the private sector – have been involved. In addition, at a higher decision-making level, the National Commission for Climate Change has been working in focal meetings with the private sector and NGOs, with a view to achieving more specific goals. This has rendered this process a more participatory one compared to the initial formulation of the iNDC. At present, the MADES is providing institutional resources to carry out consultation activities, workshops and participation meetings, which are necessary to continue working on the disaggregation and prioritisation of the measures.

1) ESTABLISHMENT OF WORKSHOPS AND WORKING GROUPS FOR A COLLABORATIVE DEBATE

Already in 2016, more than 500 people participated in the process of realising workshops for a joint debate on the NDC implementation plan. They inter alia represented women’s groups, producers, municipalities and indigenous communities (UNDP, 2016).

In June 2016, the workshop ‘Participatory Formulation of the Nationally Determined Contribution Implementation Plan of the Republic of Paraguay’ was held by the National Office of Climate Change of the Secretariat of the Environment (SEAM, for its Spanish acronym). The workshop involved the participation of the SEAM’s Director of Strategic Planning and UNDP’s Official of Sustainable Development Programmes, representatives of the Ministry of Agriculture and Livestock, the Ministry of Urban Planning, Housing and Habitat (SENAVITAT), the Vice Minister of Livestock, Members of the National Commission on Climate Change, General and Thematic Directors of the MADES amongst other officials, the Inter-American Institute for Cooperation on Agriculture (IICA), the Federation for the Self-Determination of Indigenous People (FAPI), the National Electricity Administration (ANDE), the hydroelectric company Yacyreta, the National Institute of Cooperativism (INCOOP), the Itaú Bank and the Federation of Limited Production Cooperatives (FECOPROD). Working groups were established for the participatory identification of means and compliance indicators to implement the NDC.

In April 2018, another workshop was held by the SEAM. The assistants were divided in working groups according to the categorisation of the GHG National Inventory of 2015: I) Forestry, Agriculture and Livestock (AFOLU), and II) Energy, Industry and Waste (NO AFOLU). This allowed for a sectoral review and prioritisation of proposed mitigation actions according to the criteria set within the framework of the NDC Implementation Plan. The results, recommendations and suggestions from the working groups were debated among all participants and taken into consideration for the development of the NDC Implementation Plan.
2) UPDATE AND IMPROVEMENT OF THE NATIONAL GHG INVENTORY

According to Paraguay’s Second Biennial Update Report (MADES et al., 2018), the development of the inventory involved a series of activities under a continuous improvement approach. The development process has been led by the MADES and has been coordinated by the National Office of Climate Change (ibid). Through ministerial resolution No. 04/2018, inter-institutional sectoral working groups were established. These working tables involved the participation of representatives of the various participating institutions and organisations as focal points. Paraguay has put an effort into strengthening the capacities of its national technicians in the use of the 2006 Guidelines of the Intergovernmental Panel on Climate Change (IPCC) since 2017. The capacity-building has enabled the calculations of the 1990-2015 time series using this methodology for the first time (ibid). The update and improvement of The National GHG Inventory filled the lack of historical and disaggregated information at the sectoral level, which was a challenge for the development of the NDC Implementation Plan.

3) ALIGNMENT WITH NATIONAL AND INTERNATIONAL FRAMEWORKS

The disaggregation of climate actions to achieve Paraguay’s NDC goals has been conducted based on current sectoral activities and strategies. All suitable and current public policy instruments in Paraguay, including the National Plan for Climate Change Mitigation, the National Plan for Climate Change Adaptation and their corresponding National Strategies, were also used as main references. The NDC Implementation Plan seeks to complement these policies with concrete measures that can be implemented in a quantifiable, comparable and effective way. The goal is also to build a monitoring and verification process based on a single methodology that can be used by the competent institutions of each sector. In addition, the process has been framed within the context of the Sustainable Development Goals (SDGs) and the National Development Plan Paraguay 2030, involving the Ministry of Foreign Affairs (national focal point to work on the SDGs) and the Technical Secretariat of Planning (agency responsible for implementing and monitoring compliance of the National Development Plan) in order to ensure consistency among the instruments developed.

The Implementation Plan offers a robust framework for further efforts to fulfill the goals of Paraguay’s NDC. As a first step, it has identified 110 specific climate actions to achieve the NDC goals. These climate actions are currently under review and prioritisation by all sectors (see Table 1).

<table>
<thead>
<tr>
<th>AFOULU MEASURES</th>
<th>NON AFOULU MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Agriculture: Sustainable production, use of low nitrogen fertilizers, improvements in cultivation techniques to reduce methane, rural development, and promotion of rooting.</td>
<td>• Energy: Replacement of Liquefied Petroleum Gas (LPG) by electricity, efficient stoves, efficient use of biomass, reforestation for energy purposes.</td>
</tr>
<tr>
<td>- Livestock: Agroforestry and silvopastoral systems, reduction of methane gas generation, handling of corals, integral livestock management (efficiency, sanitation, procreation, etc.), meat production, manure management.</td>
<td>• Transportation: New units in urban public transport, Bus Rapid Transport (BRT) implementation in metropolitan area, increase of biodiesel mixture in diesel, use of more efficient vehicles.</td>
</tr>
<tr>
<td>- LULUCF: Reduction of deforestation, payment for environmental services, multifunctional forests.</td>
<td>• Industrial processes: Replacement of clinker by pozzolana in cement.</td>
</tr>
<tr>
<td></td>
<td>• Waste: Reduction of solid waste; recovery and burning of methane in solid waste plants.</td>
</tr>
</tbody>
</table>

Reduction estimation: 81,4 Gg CO2 / EQ
Reduction estimation: 78,1 Gg CO2 / EQ

Table 1: Preliminary actions identified: AFOULU - NON AFOULU, under review (SEAM, 2019)
INSTITUTIONS INVOLVED: The process is led by the National Directorate of Climate Change of the Ministry of Environment and Sustainable Development, together with the Ministry of Foreign Affairs and the Technical Secretariat of Planning.

Also, the institutions that are part of the National Commission for Climate Change have been involved, which is currently composed of 34 institutions, represented by full members and 11 advisory institutions with representatives from ministries, the private sector, civil society and academia. The participating ministries include:

- Ministry of Industry and Commerce
- Ministry of Public Works and Communications
- Ministry of Finance
- Ministry of Agriculture and Livestock
- Ministry of Public Health and Social Welfare
- Ministry of Women
- Directorate of Meteorology and Hydrology

COOPERATION WITH: The process began with the support of the Spanish Cooperation. In addition, support has been received from the European Union (EU) and the United Nations Development Programme (UNDP).

FINANCE: No exact information on the amount required for the development of the NDC Implementation Plan was provided. The Spanish Cooperation, the EU, UNDP and the Ministry of Environment and Sustainable Development financed the initial preparation of the document and meetings with stakeholders.

IMPACT OF ACTIVITIES:

- **ENHANCED PUBLIC AWARENESS ON CLIMATE CHANGE:**
  The dialogue on climate change in Paraguay has progressed significantly since 2015. Civil society is increasingly aware of the impacts of climate change and of Paraguay’s commitments. An important debate has begun within members of civil society groups regarding land use change and its effects on the implementation of the climate mitigation and adaptation goals set by the NDC. It is expected that pressure from civil society arising from the dialogue will increase chances of compliance in the AFOLU sector.

- **INCREASED COORDINATION, COMMITMENT AND UNDERSTANDING BY GOVERNMENT SECTORS OF THE CHALLENGES AND RELEVANCE OF CLIMATE CHANGE:**
  Increased awareness on climate issues in the Paraguayan society allowed the National Directorate of Climate Change to reach all sectors much easier and get them involved in the preparation of the NDC Implementation Plan. Having a better understanding of the measures that are necessary to comply with the NDC, the sectors are now able to deal with issues such as the amount of resources and time needed to meet their sectoral contributions.

- **INFORMATION DEVELOPMENT FOR IMPROVED CLIMATE CHANGE MANAGEMENT:**
  National inventories, plans and strategies developed under the NDC process have enabled a more informed participation of key players and will also constitute an important asset for Paraguay to manage, monitor and report on its progress on NDC implementation.
- **MAINSTREAMING CLIMATE CHANGE INTO SECTORAL PLANNING:**
  The process of developing the NDC Implementation Plan has resulted in the approval of concrete sectoral instruments. For instance, the Ministry of Agriculture and Livestock approved a Climate Change Adaptation Plan for the agricultural sector and promoted a livestock NAMA proposal. Similarly, the National Forestry Institute worked on a National Forest Monitoring System, considering the national commitments to halt deforestation.

- **WHY IS IT GOOD PRACTICE:**

  - **SCIENCE-BASED:**
    The formulation process of Paraguay’s NDC Implementation Plan is based on the information generated through the analysis of the emissions trend of the 1990-2015 time series, which was led by the National Directorate of Climate Change of the Ministry of Environment and Sustainable Development since 2017. In addition, emission projections have been made by the Technical Secretariat of Planning on the basis of an analysis of economic growth expressed in the National Development Plan 2030. The disaggregation process of the NDC has been developed based on this information.

  - **STAKEHOLDER ENGAGEMENT:**
    The process of disaggregating the NDC into sectoral goals has involved the active participation of stakeholders from the public, private, academic and civil society sectors in working groups, thus improving the likelihood of effective NDC implementation. Discussions are ongoing on how to achieve national goals through sectoral commitments. Ministries are increasingly concerned about how to make their contribution effective, while private sector companies are trying to get involved and collaborate in implementing the goals of the NDC.

  - **POLITICAL BUY-IN:**
    Ministries are proactively involved in the NDC implementation process. They aim to occupy a more meaningful role in climate action and gather real and effective knowledge of the NDC. This involvement is reflected in several regards, ranging from the use of their own resources (human and financial) to their own sectorial instruments (e.g. NAMA proposal for livestock developed by the Ministry of Agriculture and Livestock).

  - **ALIGNMENT WITH NATIONAL AND INTERNATIONAL FRAMEWORKS:**
    The formulation process of Paraguay’s Implementation Plan has been aligned with the Sustainable Development Goals (SDGs) and Paraguay’s National Development Plan 2030, which establishes the strategies and guidelines of the development of the country for the period 2014-2030. To ensure consistency, the process involved the Ministry of Foreign Affairs (national focal point for working on the SDGs) and the Technical Secretariat of Planning (agency in charge of implementing and monitoring compliance with the National Development Plan). Prior to the development of the NDC Implementation Plan, the Technical Secretariat of Planning carried out an analysis of the percentage of alignment of the SDG goals with the National Development Plan, where the match between the goals related to climate action (SDG 13) and policy objectives in the plan were pointed out. This evidenced that the National Development Plan 2030 has direct objectives with regards to climate change (Secretaría Técnica de Planificación, 2016).
SUCCESS FACTORS: According to the interviews carried out, the following success factors have been identified:

- **STAKEHOLDER PARTICIPATION:** The participation of different stakeholders in the working groups has been fundamental in identifying measures and in establishing sectoral commitments to comply with Paraguay’s NDC. This has been possible due to an effective governance and transparency in the climate change matter. The ratification of international agreements, such as the Paris Agreement, and the approval of several planning instruments, such as the National Plan for Climate Change Mitigation and the National Plan for Climate Change Adaptation, provide evidence that climate change is a topic of national interest.

- **LEADERSHIP AND POLITICAL COMMITMENT:** The process of developing the Implementation Plan has been led by the Ministry of Environment and Sustainable Development together with the Ministry of Foreign Affairs and the Secretariat of Planning, which has made the process relevant at a high political level and enabled it to have a wide reach at sectoral levels. In addition, having a National Commission on Climate Change in the country facilitated the involvement of the different sectors and stakeholder groups and the establishment of sectoral commitments.

- **INTEGRATED INTO EXISTING PROCESSES:** The formulation process of Paraguay’s NDC Implementation Plan was developed within the framework of Paraguay’s efforts to addressing the SDGs and the National Development Plan 2030, which ensures continuity and a certain level of linkage between sectors.

OVERCOMING BARRIERS / CHALLENGES: WHAT WERE THE MAIN BARRIERS / CHALLENGES TO DELIVERY?

**INFORMATIONAL:**
Paraguay lacks historical information in the field of climate change and GHG emissions.

**POLITICAL:**
There was a lack of involvement on climate change plans and strategies at a high political level.

HOW WERE THESE BARRIERS / CHALLENGES OVERCOME?

When developing its NDC, Paraguay had only three national GHG inventories (from the years 1994, 2005 and 2012). The lack of historical and disaggregated information at the sectoral level was a challenge for the development of the NDC Implementation Plan. However, during this process, an analysis of the emissions trend of the 1990-2015 time series was carried out in parallel and submitted to the UNFCCC in Paraguay’s Second Biennial Report.

The involvement of decision-makers has increased by generating information and involving all ministries in that respect. From a technical perspective, plans and strategies are being generated at the national level. However, without the support of decision-makers, these instruments are unlikely to be sustainable. From the beginning of the formulation process of the NDC Implementation Plan to the present day, Paraguay has encouraged decision-makers to stand out in this process, and has also sought to make the language of the instruments understandable to political stakeholders of the highest ranks.
**CAPACITY:**
Public officials tend to lack technical capacities in the field of climate change and NDC implementation. At the institutional level, prior to the start of the formulation process of the NDC Implementation Plan of Paraguay, only a small number of people were trained to address climate action at country level. In that sense, human resources were limited at the beginning of the process. However, with the development of the participatory process on Paraguay’s NDC, a large number of people from different institutions were involved. This improved knowledge and understanding of climate change, the NDC and the Paris Agreement. Strengthening sectoral institutions is key to enable them to carry out the actions within their field of competence and to be able to fulfil the commitments undertaken in relation to the NDC.

**LESSONS LEARNED:**

- **MAKE USE OF EXISTING SPACES FOR INTER-INSTITUTIONAL COORDINATION:** Using existing national coordination spaces, such as the National Commission on Climate Change, allows for coordination among different ministries and member institutions, facilitating their active participation.

- **DEVELOP LEGALLY BINDING MECHANISMS IN EXISTING POLICY INSTRUMENTS:** Including climate change in national, sectoral and territorial planning instruments, such as the National Development Plan 2030, approved by the Decree N°2794-2014 (Presidencia de la República del Paraguay, 2014), is key to making actions and commitments binding at sectoral and regional levels.

- **GENERATE RELEVANT INFORMATION FOR DECISION-MAKERS:** Generating information on climate change, such as the 1990-2015 time series emissions trend analysis developed for the country, is essential for decision-makers to get involved in the process. Having clarity about the impacts of climate change and the potential to reduce such impacts has allowed stakeholders to identify sectoral goals and commit to meeting them.

- **INVOLVE STAKEHOLDERS FROM THE START:** Including all stakeholders (government, private sector, academia and civil society in general) in the process of formulating the NDC Implementation Plan is of great importance for the formulation itself and to ensure compliance with the commitments undertaken by Paraguay.

**HOW TO REPLICATE THIS PRACTICE:**

- **RECOGNISE PREVIOUS WORK AND PROGRESS ACHIEVED:** Promote synergies between previously developed planning instruments to avoid overlapping actions, generate continuity and ensure consistency.

- **CONTINUOUSLY ENGAGE STAKEHOLDERS:** Identify and involve the main stakeholders throughout the process of developing the NDC Implementation Plan, and encourage their participation in workshops and roundtables that facilitate the identification of sectoral commitments.

- **GENERATE TRANSPARENT INFORMATION:** It is important to generate transparent information to encourage all sectors involved to implement real actions in their sectors that contribute to global action.

- **PRIORITISE COOPERATION SUPPORT IN STRENGTHENING NATIONAL CAPACITIES:** It is crucial to internally invest in capacity development, with special emphasis on central government and sectors.
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