



Publication of the Confederation of Agriculture and Livestock of Brazil (CNA) for the 29th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP29-UNFCCC)

Climate actions on agriculture and food security: agricultural solutions for the Paris Agreement

1. The challenges of agriculture in the face of the impacts of global warming

Climate change and the intensification of extreme weather events have impacts on rural producers in all production systems around the world. The challenges of safeguarding food security depend, as predicted by the Food and Agriculture Organization (FAO) of the United Nations, on an increase in food production (around 40%) and the proper use of food, avoiding waste.

According to FAO, the four pillars of food and nutrition security depend on availability, physical and economic access, utilization and stability, and sustainability in food production.

The possibility of reducing greenhouse gas (GHG) emissions by adopting technologies and productive practices, conserving and restoring native vegetation, and implementing actions that enable production systems to be better prepared to face the impacts of climate events depends on numerous factors.

Each country and region has its own unique challenges. Access to technology, technical assistance and capacity-building are necessary conditions to enable changes that lead to productivity gains, adaptation of production systems, emission reduction, and other co-benefits, according to the reality of each country.

Continuously improving the capacity to strengthen production system in the face of climate change impacts is a global challenge that threatens food security and the livelihoods of rural producers.

The Evolution of the agricultural negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) highlights an extremely opportune moment to strengthen cooperation and financing as a means of promoting climate actions on agriculture and food security.

Considering the opportunity of the 29th Conference of the Parties to the UNFCCC (COP29), in Baku, and the role of Brazilian agriculture in providing climate solutions, it is essential to expand a global debate on how to strengthen low carbon agriculture, aligned with the challenges of each country. This is the purpose of this study, proposed by the Confederation of Agriculture and Livestock of Brazil (CNA).

2. The experience of the Koronivia Joint Work on Agriculture

The relationship between agriculture and climate change is a topic that has been debated at the UNFCCC since at least 2007, when a process began to discuss cooperative sectoral approaches and specific actions in the agriculture sector, in the context of what was called long-term cooperative actions, in the Bali Action Plan.¹

At the time, negotiations were focused on the adoption of a new multilateral agreement that would involve all countries in the climate agenda. The approval of the Copenhagen Accord, in 2009, showed the lack of consensus on how countries should share their responsibilities in climate action and made it clear that financing is an inherent condition to foster emissions reduction and adaptation.

The goal of financing USD 100 billion per year with resources from developed countries, which has not yet been achieved, and the creation of the Green Climate Fund (GCF) were important steps achieved in the Copenhagen Accord.

The logic of improving the accounting of GHG emissions and removals in agriculture, inherent to the implementation of climate actions and national targets, gave an overriding focus that the important thing when it comes to agriculture is to reduce emissions, which created uncertainty about how agriculture production would be taken into account.

The negotiation process on agriculture gained much emphasis with Decision 4/CP.23,² adopted in COP23, in 2017. The creation of the Koronivia Joint Work on Agriculture as a group that should evolve in the negotiations created space to mature the relationship between agriculture and climate change, especially from the perspective of adaptation.

This decision was a milestone in the whole negotiation process, as it treaded agriculture as a sector that is particularly vulnerable to the impacts of climate change and essential for ensuring food security. It created an environment for technical discussion and a process for countries to submit proposals in which the advances and specificities of various production systems could be detailed and presented, taking into account the perspectives of local and regional policies, practices, and knowledge.

The Koronivia Roadmap, as the process came to be known, made it possible to deepen knowledge and exchange experiences on the following topics:

- Modalities for implementing the outcomes of the five workshops on agriculture-related issues and future topics (topics that had been previously addressed).
- Methods and approaches for assessing adaptation, co-benefits of adaptation, and resilience.
- Improving soil carbon, soil health and soil fertility under pasture and cropland, as well as integrated systems, including water management.
- Improved nutrients utilization and manure management for sustainable and resilient agricultural system.
- Improvement of livestock management systems.
- Socio-economic and food security dimensions of climate change in the agricultural sector.

¹ <https://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3>

² <https://unfccc.int/documents/65126>

In addition, the decision opened up space for future topics. With the pandemic, a decision on how to move forward with the Koronivia Joint Work on Agriculture was postponed, and the debate expanded to include the following topics:

- Improved livestock management systems, including agropastoral production systems and others.
- Sustainable land and water management, including integrated watershed management strategies to ensure food security.

The logic of the discussions between 2018 and 2022 was based on listening to Parties through submissions on each of the topics, conducting workshops and recording the conclusions in UNFCCC reports.

Vale destacar que além de um conjunto de visões sobre os temas, esperava-se que esse trabalho permitisse evoluir em outros aspectos, como:

It is important to note that, in addition to a set of visions on themes, it was expected that this work would enable progress in other aspects, such as:

- Encouraging cooperation among the Parties, ensuring the involvement of farmers, youth, local communities and indigenous people in the process to support the implementation of climate actions, taking into account the dimension of the agricultural landscape in relation to climate change, and identifying different cultivation systems and climatic conditions.
- Increase the level of scientific and technological knowledge on sustainability and resilience of agriculture and food systems, identifying appropriate tools to facilitate their application.
- Facilitating the implementation of Nationally Determined Contributions (NDCs) and other relevant national strategies and plans, with the aim of advancing future work on agriculture and climate change within the UNFCCC context.
- Improving the reporting and accounting of agricultural emissions and removals, as well as the impacts of policies and measures, in order to avoid duplication of efforts and double counting.

The UNFCCC Secretariat reports point to several conclusions that transform the view on how to deal with agriculture in the context of climate change. The table below highlights important elements:

Outcomes of the Koronivia Joint Work on Agriculture Roadmap

- Several tools are available to assess and monitor the adaptation and its co-benefits, but existing tools can benefit from enhancements tailored to the specific circumstances of each country, taking into account the importance of sharing best practices between countries and other stakeholders and the important role of science, technology and capacity-building in facilitating data collection and adaptation assessment.
- Issues related to soil carbon, soil health and fertility, as well as the integrated sustainable land and water management are context specific and, taking into account countries' circumstances, must be addressed in a holistic and inclusive manner to realize the full potential of increasing productivity by contributing to food security, adaptation and adaptation co-benefits, as well as increasing carbon sinks.
- Livestock management systems are highly vulnerable to the impacts of climate change. However, sustainable managed livestock systems have a high capacity for adaptation and resilience to climate change, while playing a broad role in ensuring food and nutritional security, livelihoods, sustainability, nutrient cycling, and carbon management. It was noted that improving sustainable production and animal health, with the goal of reducing

greenhouse gas emissions in the livestock sector while increasing sinks in pastures and grasslands, can contribute to achieving long-term climate objectives, taking into account different systems and national circumstances.

- Soil and nutrient management practices and the ideal use of nutrients, including organic fertilizers and improved manure management, are central to climate-resilient and sustainable food production systems and can contribute to global food security.
- Socioeconomic and food security dimensions are critical when addressing climate change in agriculture and food systems. There was also recognition of the fundamental priority to safeguard food security and end hunger by designing sustainable, climate-resilient agricultural systems, applying a systematic approach aligned with long-term global goals, recognizing the importance of long-term investments in agriculture focused on this objective.

Sources: FCCC/SB/2019/L.2, https://unfccc.int/sites/default/files/resource/SB2019_L.02E.pdf;
FCCC/SB/2019/L.5 https://unfccc.int/sites/default/files/resource/sb2019_L05E.pdf;
FCCC/SB/2021/L.1, https://unfccc.int/sites/default/files/resource/sb2021_L01_E.pdf.

In addition to the conclusions on the topics discussed, it is relevant to highlight some broader messages that deserve attention:

- Agriculture and food security offer solutions to climate change and should be addressed considering the specific challenges, needs and particularities of each country.
- Adaptation of different production systems, based on realities and challenges faced by each country, should be recognized as a foundation for action.
- Integrating agriculture into UNFCCC processes is essential, as is encouraging exchanges on the synergies and trade-offs between adaptation, mitigation, co-benefits and agricultural productivity.
- The role of financing to support climate actions on agriculture: engaging the Green Climate Fund, the Adaptation Fund and other UNFCCC bodies is a necessary condition to scale up action.
- Foster cooperation to enable countries to advance with their agricultural climate actions, involving cooperation among countries, public research centers, private sectors, among others.

The Food and Agriculture Organization of the United Nations (FAO) highlighted, in the context of climate change's socioeconomic and food security, that with a growing global population, most countries will need to adapt and produce more food with fewer resources. This indicates that intensifying the adoption of technologies aiming to reduce emissions intensity while strengthening production and providing adaptation are inherent challenges that need to be faced by all countries considering agriculture in their climate actions.

Adaptation should be viewed as a set of tools, technologies and practices that give support to each production system according to the realities and needs of each country. Improving soil health and fertility, increasing productivity, promoting technologies that reduce emissions and improve carbon capture in the soil, fostering rural assistance and technology dissemination are all relevant measures to be promoted.

Therefore, it is worth highlighting that the access to public, private and climate financing, especially for developing countries, will be a key factor in achieving win-win actions regarding agriculture, climate change and food security.

At COP27, in 2022, the creation of the Sharm El-Sheikh Joint Work on Implementation of Climate Action on Agriculture and Food Security (Sharm El-Sheikh Group)³, with the aim of advancing negotiations on agriculture and climate change, building on the experience of the Koronivia Joint Work on Agriculture.

³ https://unfccc.int/sites/default/files/resource/cop27_auv_3ab_Koronivia.pdf

A notable aspect of this decision was the agreement on the term “climate action on agriculture and food security”, recognizing the intrinsic relationship between global warming impacts on agriculture and global food security. This reinforces the approach of addressing agriculture through mitigation, adaptation and co-benefits, without prioritizing emission reduction at the expense of adaptation.

Decision 3/CP.27 established, among other elements, a four-year mandate to evolve the discussions and created the Sharm el-Sheikh online portal to consolidate agricultural climate actions and policies. Additionally, it determined that the UNFCCC Secretariat should prepare an annual report on the engagement of Convention bodies, including the GCF and the Adaptation Fund, in order to expand collaboration opportunities to support the implementation of agricultural climate actions.

The decision also recognized that livestock management systems are highly vulnerable to the impacts of climate change, while sustainable managed livestock systems demonstrate adaptive capacity and resilience and play essential roles in food and nutritional security.

Moreover, it observed that improving sustainable production and animal health, with the aim of reducing GHG emissions in the livestock sector while enhancing carbon sequestration in pastures can contribute to achieving long-term climate actions, taking into account different systems and national circumstances.

It acknowledged the priority of safeguarding food security and ending hunger through sustainable, climate-resilient agricultural systems, applying a systemic approach aligned with the global climate objectives and emphasizing the need for resource mobilization, financing, and ongoing cooperation to scale up mitigation, adaptation and co-benefits in agriculture.

The Sharm el-Sheikh online portal is expected not only to centralize countries’ climate actions on agriculture and food security, but also to connect Parties to funding and cooperation mechanisms, supporting the implementation of their national policies.

At COP28, in Dubai, governance disagreements prevented the approval of a decision to operationalize the Sharm el-Sheikh Group, including the definition of a workplan. However, progress was made during the Subsidiary Bodies Meeting in Bonn in June 2024, where Parties agreed on a road map for the Group, outlining actions to be implemented over the next two years. This preliminary decision is scheduled for approval at COP29 in Baku.⁴

3. Climate actions on agriculture and food security and the example of tropical agriculture

The rationale behind all countries engaging in climate targets stems from the NDC development process, which reflects each country’s unique realities, capacities and needs. Thus, climate actions are designed to address challenges related to mitigation, adaptation, financing, technology adoption, and capacity-building in the sector identified by each country.

With 141 out of 168 NDCs submitted by September 2024 mentioning the agriculture sector, it is clear that countries are planning a diverse range of actions.⁵ When considering climate actions on agriculture and food security, it is essential to consider mitigation, adaptation and co-benefits strategies.

⁴ <https://unfccc.int/documents/638852>

⁵ https://unfccc.int/sites/default/files/resource/cma2023_12.pdf

A brief comparison of actions between Latin America countries highlights that innovation and ongoing technology adoption are fundamental to their climate plans. The restoration of pastures and degraded areas is a common action across multiple countries, aimed at enhancing livestock production while reducing emissions.

Countries	Climate actions on agriculture and food security
Argentina	<ol style="list-style-type: none"> 1. Soil conservation 2. Efficiency and diversification of production. 3. Agroforestry and fisheries climate risk management. 4. Integrated agroecosystem management. 5. Production traceability mechanisms. 6. Reducing deforestation. 7. Relocation and population roots.
Bolívia	<ol style="list-style-type: none"> 1. Recover and increase at least 725,000 additional hectares of degraded soil for food production by 2030. 2. Increase production by 70% of strategic crops at the national level by 2030. 3. Increase the average yield of strategic crops at the national level by 60% by 2030.
Brasil	<p>The Plan ABC+, approved in 2021, aims to achieve 72,6 million hectares adopting low-carbon technologies and practices, with the potential to reduce up to 1 billion tons of CO₂eq. Key targets are:</p> <ul style="list-style-type: none"> • 30 million hectares of degraded pasture recovery • 10 million hectares of integrated agriculture, livestock, and forestry systems • 100,000 hectares of agroforestry systems • 12,50 million hectares of no tillage systems • 80.000 of no tillage systems for horticulture • 4 million hectares of planted forested • 13 million hectares of areas using bionputs • 3 million hectares using irrigation • 5 million animals under intensive termination • 208,40 gestão de resíduos de produção animal <p>Moreover, it is important to say that the ABC+ Plan is based on an integrated landscape management, which includes the implementation of the Forest Code, comprising conservation and restoration of native vegetation.</p>
Colômbia	<ol style="list-style-type: none"> 1. Reduce GHG emission from livestock production and increase carbon removals from agroecosystems dedicated to cattle ranching. 2. Strategies to reduce GHG emissions in the life cycle of cocoa production. 3. Strategies for the mitigation of GHG generated in the production, harvest and post-harvest stages of coffee at the farm level.
Chile	<ol style="list-style-type: none"> 1. Strengthening water resources planning and management at the national level to optimize water use in agriculture. 2. Establishing a national program to promote efficient and sustainable water management in irrigation agriculture. 3. Designing and developing a National System for Risk Management in the face of climate events and agricultural emergencies. 4. Adopting integrated pest and disease alert and control systems. 5. Promoting the use of cropping systems to reduce thermal stress. 6. Developing genetical improvement programs for agricultural crops vulnerable to climate change. 7. Developing a system of environmental sustainability indicators for agriculture. 8. Development of an information system for climate change adaptation. 9. Promote the use of sustainable agronomic practices aimed at the recovery and maintenance of the productive potential of agricultural soils.
Costa Rica	<ol style="list-style-type: none"> 1. Implementation of a circular economy system by 2025 for agricultural farms, considering the biodigestion process and soil recarbonization using technologies to increase soil organic carbon levels. 2. By 2030, 70% of the livestock herd and 60% of the area destined to livestock will implement low-emission production systems. 3. By 2030, the reduction of total pasture area will be maintained at an annual rate of 1% and the increase of well-managed pasture area as a rate of 1 to 2% per year.

	4. Incorporation of adaptative and resilient practices into agricultural production systems by 2030.
República Dominicana	1. Reducing GHG emissions in swine farms. 2. 75,102 by 2030 of coffee growing area under sustainable management, with emission reduction potential of 5 MMtCO ₂ eq. 3. Low carbon and resilient development of small cocoa producers with intervention of 146,648 ha and a reduction potential of 2.2 MMtCO ₂ eq in a period of 10 years.
Panamá	1. Restoration of 130.000 ha of degraded areas with agroforestry and silvopastoral systems by 2050. 2. Creation of an agroclimatic information system for the agriculture sector by 2025. 3. Implementation of low carbon technologies for rice and livestock up to 2030.
Paraguay	1. Increase the capacity to adapt to the impacts of climate change using technified production and good agricultural practices by 2030. 2. Strengthen producer's capacities through the dissemination of good practices and appropriate technologies for agriculture, livestock and forestry production by 2030. 3. By 2030 promote the use of nature-based solutions to increase the sector's resilience face the impacts of climate change. 4. Reduce the use of nitrogen fertilizer in soybean, wheat and corn crops by 5-10% by 2030 using precision farming and bio-fertilizer technologies. 5. Reduce the use of nitrogen fertilizer in horticultural production by 5% by 2030. 6. Good agricultural practices in rice production using efficient water and more efficient varieties on 30% of the area by 2030. 7. By 2030, 50% of the micro-farmers should improve cattle digestibility and use organic manure for fertilization.
Uruguay	1. Incorporation of good management practices for pastureland and breeding herds in cattle production areas between 1.500.000 ha and 4.000.000 ha by 2030. 2. By 2030, 95% of the agricultural area subject to Land Use and Management Plans will have improved productivity and water storage capacity. 3. Reduce CH ₄ emissions by 35% and N ₂ O emissions by 36% per unit of beef product by 2030. 4. Technologies that minimize methane emissions due to effluent and manure management will be used in 55% of the national dairy herd. 5. Implementation of technologies that improve the efficiency of nitrogen fertilizer use in at least 25% of the area of winter crops, corn and sorghum by 2030. 6. Intermittent irrigation technology will be introduced on 5 to 10% of the rice growing area by 2030. 7. Incorporation of good effluent management practices in dairy farms, reaching 50% of the national herd by 2030.

Sources: Parties' NDCs: <https://unfccc.int/NDCREG>

Argentina: https://www.argentina.gob.ar/sites/default/files/manual_adaptacion_y_mitigacion_al_cambio_climatico_1285pag_1.pdf

Chile: <https://www4.unfccc.int/sites/NAPC/Documents/Parties/Chile%20NAP%20including%20sectoral%20plans%20Spanish.pdf>

The examples above illustrate the variety of actions that countries intend to adopt. National strategies, tailored to each country's specific needs and challenges, are expected to increasingly encourage the adoption of climate actions on agriculture and food security aimed at mitigation, adaptation and co-benefits.

The Brazilian agriculture deserves attention in this regard. The Sectoral Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low Carbon Economy in Agriculture (ABC Plan) 2010-2020 was approved during a period when countries were developing their nationally appropriate mitigation actions, which reflects the importance of agriculture as a solution in the context of Brazilian climate actions.

According to the Ministry of Agriculture, between 2011 and 2020, the ABC Plan technologies were implemented across 52 million hectares, achieving a reduction of 170 million tons of CO₂ equivalent.

The approval of the Plan for Adaptation and Low Carbon Emission in Agriculture (Plan ABC+)⁶, in 2021, established a new phase, incorporating adaptation and mitigation as guiding instruments for Brazil's low-carbon agriculture policy. The goal of achieving and maintaining Sustainable Systems, Practices, Products and Production Process (SPS ABC) in 75.68 million hectares by 2030, with a potential reduction of up to 1 billion tons of CO₂eq, guides agricultural development based on development.

It is worth noting that the estimated emissions from agriculture in 2020, according to data from the National Emissions Registry System (SIRENE), were 554,989 million tons of CO₂eq. By implementing ABC+ Plan technologies, Brazil aims to offset approximately two years of agricultural emissions.

ABC+ Plan Targets

Sustainable Systems, Practices, Products, and Production Processes - SPS _{ABC}	Commitment	Potential Mitigation (million Mg CO ₂ eq)
Practices for the Recovery of Degraded Pastures (PRPD)	30 million ha	113,7
Integrated Crop-Livestock-Forestry System (ILPF)	10 million ha	34,11
Agroforestry Systems (SAF)	0,10 million ha	37,9
No-Till Grain System	12,50 million ha	46,71
No-Till Vegetable Planting System (SPDH)	0,08 million ha	0,88
Planted Forests	4 million ha	510
Bionputs (BI)	13 million ha	23
Irrigated Systems (SI)	3 million ha	50
Intensive Termination (TI)	5 million animals	16,24
Management of Animal Production Waste (MRPA)	208,40 million m ³	277,8
Achievement in hectares, million m ³ , and number of animals	72,68 million ha + 208,40 million m ³ + 5 million of animals	1.042,41

Source: ABC+ Plan.

Among the Sustainable Systems, Practices, Products, and Production Process (SPS ABC), it is relevant to point out the inclusion of the no-till system for vegetables, agroforestry systems, bioinputs, irrigated systems, animal production waste management, intensive finishing, as well as integrated crop-livestock-forestry (ILPF), practices for recovering degraded pastures, the no-till system, and planted forests.

One of the intrinsic challenges to the success of the ABC+ Plan by 2030 is the integration of smallholder agriculture. Providing technical assistance and rural extension, stimulating investments that enable productivity gains, adaptation, and resilience represent significant challenges across all production systems and farm sizes, including small-scale producers.

The ABC+ Plan is based on an integrated landscape approach, combining the adoption of technologies and practices with native vegetation conservation and restoration under the

⁶ <https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/agricultura-de-baixa-emissao-de-carbono/abc>

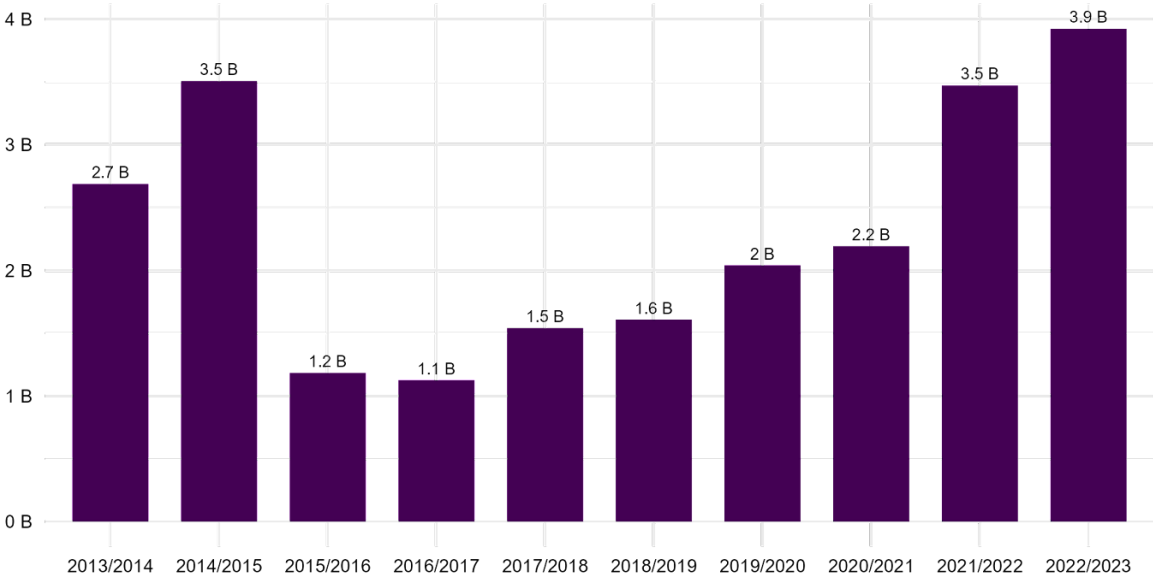
Forest Code, consolidating a production and conservation approach. This is an important differentiator for Brazilian agriculture, which combines vegetation, carbon stocks, water conservation, biodiversity and soil.

The potential to transform tropical agriculture through continuous innovation is crucial to strengthening agriculture against climate impacts. The ABC+ goal of recovering 30 million hectares of pasture clearly illustrates the potential to convert degraded areas into productive zones for various agricultural crops, enabling livestock farming to be intensified and also freeing up areas for native vegetation restoration.

Defining means to finance the ABC+, going beyond public financing, will be crucial to achieving policy goals. Recognizing ABC+ technologies and practices as green criteria can stimulate the financial market to issue green bonds linked to these criteria and support the creation of sustainable investment funds aimed at financing ABC+ technologies and practices.

Financing for technologies under both former ABC Plan and current ABC+ Plan, through the current Renovagro program (formerly ABC and ABC+ Programs), reached nearly R\$ 4 billion contracted for the 2022/2023 harvest. Since 2013/2014, R\$ 23 billion has been contracted under the low-carbon agriculture policy.

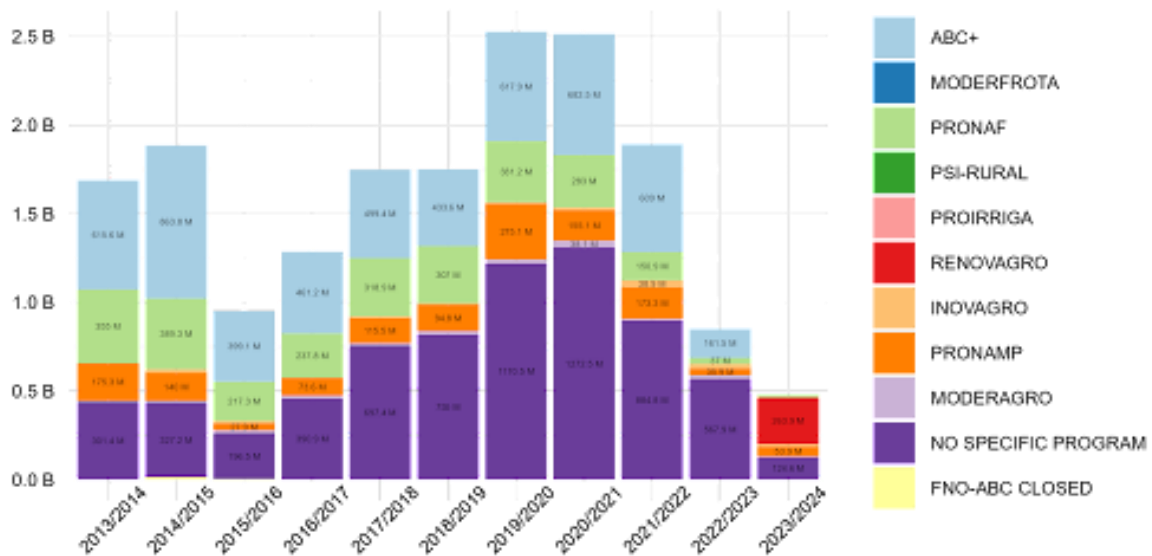
Contracted value in the ABC Program by crop year (R\$)



Source: SICOR - Brazilian Central Bank

There are other financing lines in the Safra Plan, that also finance low-carbon farming practices. Among the various programs that finance practices for soil correction, management, and recovery recovery and forage planting, data indicates that between 2018 and 2020, more than R\$ 5 billion were contracted for these activities.

Contracted value to soil improvement products by crop year (R\$)



Source: SICOR - Brazilian Central Bank

It is reasonable to consider that bioinputs, agroforestry systems, no-till farming of vegetables, and other new technologies included in the ABC+ Plan may bring multiple benefits to food production, including for smallholder farmers. In addition to productive practices, agriculture 4.0, biotechnology, and gene editing, among other tools, tropical agriculture will have a wide array of tools to grow in harmony with a tropical approach to sustainable development.

Recognizing the innate relationship between agriculture and food security in the face of the challenge of promoting mitigation, adaptation and co-benefits, it is important to put the Sustainable Development Goals (SDGs) into perspective.

Promoting sustainable development requires eradicating hunger and ensuring food security (SDG2), which is necessary to significantly contribute to ending poverty (SDG1), considering the challenges of global warming (SDG13) and the sustainable use of natural resources (SDG15). Other SDGs are easily incorporated into the equation when acknowledging the continuous need to innovate, adapt, generate skilled jobs, promote sustainable production and consumption patterns, among others.

According to FAO, addressing the challenges posed by climate change and food security across food systems – from agricultural production to food consumption – will be a priority for the coming decade. With ABC+, Brazil will provide knowledge and experience on how to contribute to food security based on sustainable food production.

The ABC+ Plan could become a catalyst for transformations and investment in technologies and practices in agriculture, contributing to a new era of innovation in the field. Attracting investment, consolidating a sustainable agriculture policy, and contributing to global challenges seems to be a natural path for this new phrase of the policy.

It is also worth noting that states are approving their ABC+ Plans, aiming to plan and prioritize the implementation of low-carbon technologies tailored to regional challenges. The governance of the ABC+ Plan, supported by these state-level plans, will be extremely important for strengthening the implementation of low-carbon tropical agriculture.

4. Proposals for integrating countries in pursuit of resilient agriculture

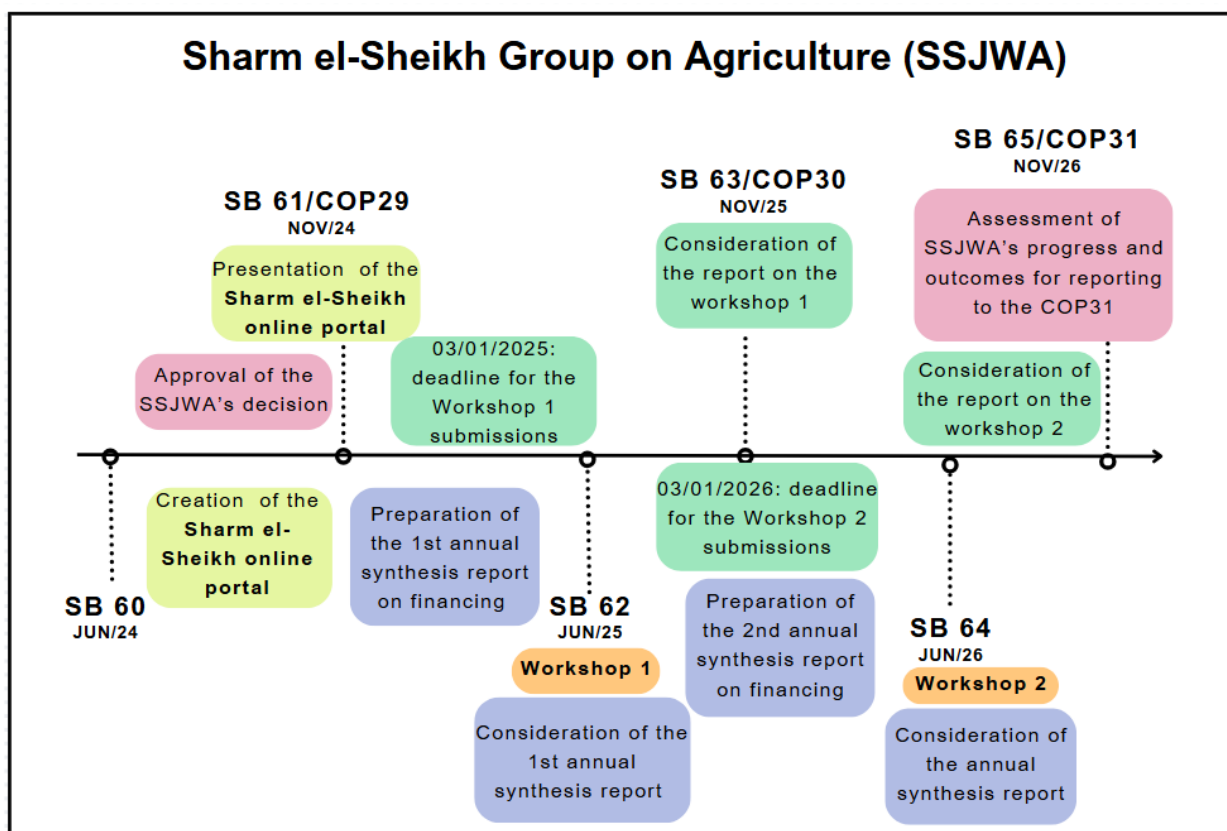
Innovation is a keyword when it comes to the adoption of climate actions on agriculture and food security. Access to technologies, knowledge to implement good production practices, capacity building, technical assistance, and financing are inherent elements for enabling actions that favor mitigation, adaptation and co-benefits.

The range of actions currently being adopted by countries and, more broadly, that can be developed by countries, will depend on various factors, particularly access to technologies, capacity building and financing.

The COP29 decision on the Group of Sharm el-Sheikh will be crucial in supporting countries in implementing climate actions on agriculture and food security. The basis for the decision, agreed at the Bonn meeting in June 2024, enabled the definition of the Sharm el-Sheikh Group's road map, anchored on the following pillars:

1. An online portal to compile climate actions by Parties and observers.
2. A report on climate financing for agriculture, prepared by the Secretariat.
3. Workshops to promote sectorial discussions.

The outline below illustrates the road map process up to COP31, when Parties are expected to assess the outcomes achieved.



Source: Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security. Draft conclusions proposed by the Chairs. FCCC/SB/2024/L.2.

It is worth noting that a preliminary version of the Sharm el-Sheikh online portal is already available on the Convention's website⁷, aiming to compile projects, policies and actions by Parties and Observers on agriculture and food security, and to facilitate access to climate finance opportunities for their implementation. As agreed at the Bonn Conference, the portal should be improved by the 62nd Meeting of the Subsidiary Bodies in June 2025.

By COP30, it is expected that there will be an opportunity to know and evaluate submitted policies and actions, assess the demand for technologies and financing, and map the main actions likely to be adopted, among other insights that will deepen knowledge of agriculture's potential solutions.

In this context, it becomes essential to highlight elements that need to be considered in the decision expected to be approved at COP29:

1. Approve the Group of Sharm el-Sheikh's work plan based on the document agreed at the Subsidiary Bodies meeting in Bonn.
2. Encourage Parties to submit their actions on agriculture and food security on the online portal, allowing them to be evaluated at COP30 in Belem and thereafter.
3. Approve a template to guide Parties in their submissions, aimed at gathering and comparing information on agriculture and food security actions,
 - Tecnologias que permitam reduzir e capturar emissões;
 - Technologies for emissions reduction and capture.
 - Adaptation technologies, practices and indicators in different production systems.
 - Low-carbon agriculture actions integrated into the Parties' NDCs.
 - Conservation and restoration actions of native vegetation associated with productive areas.
 - Policies and demands for funding.
 - Technical assistance needs.
 - Cooperation projects.
 - Needs for access to technologies that enable the adoption of mitigation, adaptation and co-benefits actions.
 - Other information.
4. Suggest that the private sector and civil society could also contribute with climate actions on agriculture and food security to complement those of the Parties.
5. Request to the Secretariat to prepare synthesis reports with detailed information on climate finance, technologies and cooperation mechanisms aimed at supporting Parties in implementing their agriculture and food security actions.
6. Facilitate the connection of projects submitted by the Parties to climate finance via Green Climate Fund (GCF), the Adaptation Fund and other potential financial mechanisms.

The operationalization of the online portal within the Climate Convention system opens up several opportunities to position agriculture as part of the solution. Through this platform, the ABC+ Plan could be registered as Brazil's agricultural sector policy, highlighting the good practices adopted and fostering funding opportunities that may arise.

It is imperative to consider that with the accumulated experience on agriculture and climate change, advancing into an implementation phase is essential, which is intrinsically linked to cooperation and climate financing.

⁷ UNFCCC. Sharm el-Sheikh online portal. Disponível em: <https://unfccc.int/topics/land-use/workstreams/agriculture/sharm-el-sheikh-online-portal>

If it is not possible to move forward with funding, it is worth questioning whether the potential of agricultural climate solutions could be undermined, especially in countries dependent on support.

Amid the worsening climate impacts and the search for new funding sources, negotiations on the new collective quantified goal (NCQG) on climate finance will be the most relevant for COP29.

The new target is crucial to support developing countries in implementing their mitigation and adaptation actions, aligned with the objective of limiting global warming to 1.5°C. The expected increase in the ambition level in the Parties' NDCs for 2035, to be submitted by March 2025, will heavily depend on progress in financing negotiations.

The lack of compliance with the target of USD 100 billion per year through donations from developed countries exposes the challenge of finding effective means of implementation, hindering the achievement of the Parties' climate actions. In view of this, it is necessary to diversify financing sources, including not only donations, but also public policies, multilateral banks resources, private investments, philanthropic resources, among others.

These new funding sources should support countries in creating and implementing policies and projects aimed at boosting technologies and continuous innovation, according to the needs, realities and challenges of each country, following the logic of the NDCs.

It should be noted that without adequate financing, the implementation of the Parties' climate actions will be severely compromised, putting at risk the level of ambition needed to strengthen the Paris Agreement.

5. Market issues and environmental and climate barriers to agriculture

The evolution of agricultural negotiations, as seen above, leads to the conclusion that there is no single approach that can be universally adopted by all countries when it comes to climate actions on agriculture and food security.

The diversity of actions proposed by countries, as recognized at COP27, reflects the varied realities and challenges they face, which does not necessarily imply that the same actions and technologies will be adopted in all countries. It is important to emphasize that the NDCs should be aligned with the policies and needs of the Parties, which helps to understand the diversity of agricultural actions.

The explicit recognition that the socioeconomic and food security dimensions are critical when dealing with climate change in agriculture and food systems reinforces that there is no one-size-fits-all solution, but rather a range of actions.

Moreover, it is essential to remember that climate actions on agriculture and food security aim to achieve mitigation, adaptation and co-benefits outcomes, without necessarily making the emissions reduction the primary goal. This is significant given the increasing adoption of climate measures affecting international trade, focused on emission reduction targets.

The logic of climate measures aimed at meeting unilateral demands of countries or private actors may contradict the rationale behind the creation of NDCs and the implementation of climate actions defined by countries. The Enhanced Transparency Framework of Article 13 of the Paris Agreement and the presentation of Biennial Transparency Reports by the Parties will enable the achievement of targets at national level to be assessed.

Brazil's low-carbon agriculture approach seeks to promote the adoption of technologies and practices that reduce emissions while supporting adaptation. The goal of reaching 72,6 million hectares adopting the technologies of the ABC+ Plan, aiming to reduce up to 1 billion tons of CO₂eq, represents a substantial contribution from Brazilian agriculture within its NDC.

It is worth emphasizing that the potential of reduction emissions intensity in agriculture should be considered as a way to mitigate while production grows, compared to a business-as-usual scenario in which no action would be taken.

For the CNA, innovating and improving the financing of low-carbon agriculture are inherent challenges to strengthening climate actions on agriculture and food security.

The logic of climate measures designed to meet the demands of a country or organization, such as carbon border measures, which are based on methodologies to calculate emissions from certain products, can create a tangle of measures that generate obligations for several sectors and that disregard or overlap with existing climate actions for these sectors in the country of origin.

The evolution of agricultural negotiations shows that reducing emissions is possible and important, while disseminating ways to foster adaptation and resilience of production systems is a central challenge in the pursuit of strengthening global food security and reducing climate change impacts on food production and rural producers.