



Food and Agriculture
Organization of the
United Nations

The agricultural sectors in nationally determined contributions (NDCs)

Priority areas for international support





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CONTENTS

<i>Acknowledgments</i>	<i>iv</i>
<i>Executive summary</i>	<i>v</i>
1. INTRODUCTION	1
2. THE INDC/NDC PROCESS	3
<i>Converting INDCs to NDCs</i>	<i>3</i>
<i>Implementing NDC commitments</i>	<i>3</i>
<i>Monitoring and reporting</i>	<i>3</i>
<i>Global stocktaking</i>	<i>4</i>
<i>Subsequent NDCs</i>	<i>4</i>
3. REVIEW OF DEVELOPING COUNTRY SUPPORT NEEDS	5
<i>Technology transfer</i>	<i>5</i>
<i>Capacity needs</i>	<i>6</i>
<i>Financial support</i>	<i>6</i>
<i>Survey on NDC implementation</i>	<i>6</i>
4. INTERVENTION AREAS	9
<i>Intervention area 1</i>	
<i>Compliance with the enhanced transparency framework of the Paris Agreement</i>	<i>10</i>
<i>Intervention area 2</i>	
<i>Coherent policy frameworks for climate action in the agricultural sectors</i>	<i>12</i>
<i>Intervention area 3</i>	
<i>Research, analysis and tools</i>	<i>14</i>
<i>Intervention area 4</i>	
<i>Capacity development for implementation and action in the agricultural sectors</i>	<i>16</i>
<i>Intervention area 5</i>	
<i>Investment for the development of the agricultural sectors</i>	<i>18</i>
5. CONCLUSION	21
References	23



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EXECUTIVE SUMMARY

The Paris Agreement was a landmark achievement in the international response to climate change. The agreement was built on the intended nationally determined contributions (INDCs) submitted by Parties to the United Nations Framework Convention on Climate Change (UNFCCC). The agricultural sectors (crops, livestock, forestry, fisheries and aquaculture) feature prominently in these national commitments, as outlined in the FAO study, *The Agriculture Sectors in the Intended Nationally Determined Contributions (INDCs): Analysis*. This is indicative of growing international recognition that climate action in the agricultural sectors can be transformative in the response to climate change, and a driver for achieving the 2030 Agenda for Sustainable Development.

Developing countries will take the lead in implementing their nationally determined contributions (NDCs). The international community has committed to support them in doing so, as well as adhere to the reporting requirements of the Paris Agreement and enhance ambition in future NDC cycles. Support for the agricultural sectors should be a priority for the international community given their prominence in the INDCs and their potential to enhance adaptation and mitigation ambition.

FAO has developed this paper, *The agricultural sectors in nationally determined contributions (NDCs): Priority areas for international support*, to guide the international community when delivering this support. This paper builds on FAO's study, *The Agriculture Sectors in the Intended Nationally Determined Contributions (INDCs): Analysis*. It identifies common challenges that are preventing developing countries from achieving their commitments and ambitions in the agricultural sectors, as well as the types of support that are required to address them. These are clustered into five intervention areas:

1. Compliance with the enhanced transparency framework of the Paris Agreement
2. Coherent policy frameworks for climate action in the agricultural sectors
3. Research, analysis and tools
4. Capacity development for implementation and action in the agricultural sectors
5. Investment for the development of the agricultural sectors

The global community must rapidly scale up support in these areas. International organizations, technical agencies, financial institutions and other actors must work closely with developing countries to mount a coordinated response to these challenges.



I. INTRODUCTION

In 2015, the international community made three historic commitments to address the most pressing challenges of the 21st Century. With the adoption of the 2030 Agenda for Sustainable Development in September 2015, countries clearly articulated their high-level ambitions for a hunger-free, equitable and environmentally sustainable world. The international community also adopted the Addis Ababa Action Agenda at the Third International Conference on Financing for Development, agreeing on financial and non-financial means of achieving the 2030 Agenda. Finally, in December 2015, Parties to the United Nations Framework Convention on Climate Change (UNFCCC) adopted the landmark Paris Agreement on climate change.

Through the Paris Agreement, developed and developing countries have committed to do their part to transition toward a climate-resilient and low-emissions future. This landmark achievement in multilateral diplomacy constitutes a major step forward in the discourse on climate change. It recognizes that the ambitions of the 2030 Agenda – particularly the eradication of poverty, food insecurity and malnutrition – cannot be achieved without concerted action on climate change, and that climate action can be a driver for sustainable development.

The Paris Agreement was built on the intended nationally determined contributions (INDCs) that Parties submitted to the UNFCCC. In the coming years, Parties will develop their INDCs into their first nationally determined contributions (NDCs)¹ – the main national policy frameworks under which Parties will communicate their climate commitments to the international community and report on progress made toward achieving them.

The Paris Agreement entered into force on 4 November 2016, less than one year after Parties universally adopted the agreement at COP21 in Paris.² Parties are now focusing on the means of implementing their commitments. The process of moving from high-level targets to concrete action will require considerable planning and inter-ministerial/sectoral coordination. It will also require financial resources to make investments that achieve impact on the ground.

Countries will take the lead in planning, implementing, monitoring, reporting on and ultimately revising their NDCs. The international community – including state and non-state actors – has a responsibility to support developing countries in doing so. Developed countries have repeatedly committed to provide developing countries with technology transfer, capacity building and financial support. Importantly, through the Paris Agreement and its associated decisions, developed countries reiterated their previous commitment to channel at least USD 100 billion in annual climate finance to developing countries by 2020. They also agreed to establish a more ambitious climate finance target from 2025.

1 A Party may revise its INDC – for example, to increase the level of ambition, or provide additional details on sectoral targets and/or plans for achieving them – before ultimately submitting it as an NDC. However, unless a Party specifies otherwise, its INDC will become its first NDC upon submitting its instrument of ratification for the Paris Agreement.

2 The ratification threshold of the Paris Agreement – ratification by 55 countries representing at least 55 percent of global greenhouse gas emissions – was reached on 5 October 2016, much earlier than many observers anticipated. Article 21 of the Paris Agreement stipulated that the Agreement would enter into force 30 days after this threshold was crossed.



The Food and Agriculture Organization (FAO) of the United Nations is supporting its Member States to respond to climate change and pursue sustainable development through action in the agricultural sectors (crops, livestock, forestry, fisheries and aquaculture). A recent FAO assessment of the INDCs indicates that this support is urgently needed. *The Agriculture Sectors in the Intended Nationally Determined Contributions (INDCs): Analysis*³ presents detailed findings on how the agriculture sectors are addressed in countries' INDCs. More than 85 percent of developing countries refer to agriculture and/or Land Use, Land-Use Change and Forestry (LULUCF) in their mitigation contributions. Among developing countries that specified adaptation commitments or actions in their INDCs, more than 90 percent refer to the agricultural sectors in this context. Many countries also identified the potential for the agricultural sectors to deliver adaptation-mitigation synergies, as well as economic, environmental and social co-benefits. More than 30 countries explicitly refer to Climate-Smart Agriculture (CSA) in their INDCs, including in the context of seizing adaptation-mitigation synergies. This is indicative of the growing momentum for climate action in these sectors, as well as the opportunities for synergies and the corresponding need for international support.

Building on the results of that analysis this paper outlines key types of support developing countries will require to effectively take the lead on planning, implementing, monitoring and reporting on their commitments in the agricultural sectors, and ultimately enhance ambition in the coming years. This paper aims to identify priority areas for support that emerge from countries' commitments and related requirements under the Paris Agreement, and guide FAO and other international actors when planning and delivering support.

The importance of the agricultural sectors in the response to climate change

The agricultural sectors are the foundation for the livelihoods, food security and nutrition of a significant proportion of developing country populations, particularly the poorest and most vulnerable. They are simultaneously among the most vulnerable sectors to a changing climate. This points to a clear need for enhanced adaptation action and ambition.

The agricultural sectors are also responsible for about one-fifth of global greenhouse gas (GHG) emissions, and therefore have a significant role to play in mitigating climate change. They have a similarly important role to play in improving natural resource management. For example, the agricultural sectors account for about 70 percent of global freshwater use.

Climate action in the agricultural sectors is not only a necessity, but also an opportunity. Investments in productive, sustainable and resilient agricultural development can simultaneously: enhance productivity, output and income; build resilience; contribute to sustainably managing natural resources such as water; and deliver mitigation benefits by easing the pressures that drive deforestation and enhancing carbon sequestration.

³ This publication is available at: <http://www.fao.org/3/a-i5687e.pdf>

2. THE INDC/NDC PROCESS

In the coming years, countries will engage in a continuous process of developing, implementing, reporting on, and ultimately revising their NDCs every five years. The formal requirements of that process (presented below) inform the types of support that many developing countries will request from the international community.

Converting INDCs to NDCs

Parties are invited to submit their first NDC no later than when they submit their instrument of ratification for the Paris Agreement.⁴ The first NDC submitted by a Party can include the same commitments as those specified in the INDC, or can be a revised version of the INDC that: enhances ambition; provides additional details on targets (e.g. breaking down economy-wide targets into sector-specific targets); and/or specifies strategies/plans for achieving targets. Unless a Party specifies otherwise, its INDC will become its NDC upon submitting its instrument of ratification for the Paris Agreement.⁵

Implementing NDC commitments

The process by which Parties implement their NDCs will vary. This is because INDCs and NDCs are heterogeneous, as are the foundations upon which they are built. For example, many countries set their targets based (at least in part) on existing policies and strategies, while others have yet to define the specific measures they will pursue to achieve their goals. Among countries where existing policies and strategies are the foundation for the INDC/NDC, some may be in the early stages of implementation, while others may be more advanced. Some countries may take a more centralized approach to NDC implementation, including by developing a detailed national plan that specifies concrete actions. Other countries may adopt a more decentralized approach, which could include delegating responsibility for achieving targets to sectoral stakeholders or sub-national authorities.

Despite this heterogeneity, common steps involved in NDC implementation in developing countries are likely to include: developing a national NDC implementation strategy or plan; identifying appropriate mitigation and adaptation policy measures in all relevant sectors; mobilizing national and international financial resources and support; implementing policy measures through legislation, regulations and expenditures; and facilitating/coordinating action with non-state actors.

Monitoring and reporting

Article 13 of the Paris Agreement establishes an ‘enhanced transparency framework for action and support’ to review progress made by Parties. On a biennial basis, Parties will submit: (i) national inventory reports of anthropogenic emissions; and (ii) information necessary to track progress made in implementing and achieving their NDCs.⁶ Decision 1/CP.21 stipulates

⁴ As stipulated in Decision 1/CP.21, paragraph 22.

⁵ As stipulated in Decision 1/CP.21, paragraph 22, if a Party has communicated an intended nationally determined contribution prior to joining the Agreement, that Party shall be considered to have satisfied the NDC submission requirement upon submitting its instrument of ratification unless it specifies otherwise.

⁶ As stipulated in Decision 1/CP.21, specific guidelines for measuring, reporting and verification (MRV) of emissions and removals are still to be negotiated. The Paris Agreement specifies only that good practice methodologies accepted by the Intergovernmental Panel on Climate Change should be used.



that all Parties will adhere to these requirements, except for Least Developed Countries (LDCs) and Small Island Developing States (SIDS), which will submit this information at their discretion. In addition, developed countries are required to provide information on finance, technology transfer and capacity building support they have provided to developing countries. Developing countries are requested to report on the support they have received and any additional needs they have in these areas. A technical expert review will assess the information provided by Parties under Article 13.

Parties are also encouraged to provide information on climate change impacts and adaptation progress as part of an 'adaptation communication', though this is not a formal requirement. Although Article 7 of the Paris Agreement encourages such adaptation communications, it also specifies that this process should not create any additional reporting burden for developing country Parties. As such, many Parties will likely provide this information as part of their progress updates on NDC implementation, or as part of their national communications.

Global stocktaking

The Paris Agreement includes a process to review international progress in responding to climate change every five years starting in 2023.⁷ At these intervals, Parties will engage in a global stocktaking of the overall level of ambition and delivery in relation to the goals of the Paris Agreement that are stipulated in Article 2. The global stocktake shall consider mitigation, adaptation and the means of implementation and support. This process is expected to provide an impetus for enhanced ambition in the subsequent five-year cycle of NDCs.

Through Decision 1/CP.21, paragraph 20, Parties also agreed to a facilitative dialogue in 2018 to review collective efforts and progress in relation to the goals of the Paris Agreement. Although not a formal global stocktaking, this facilitative dialogue will nevertheless take stock of progress made with a view to enhancing long-term ambition.

Subsequent NDCs

Parties are required to submit new NDCs every five years. Parties are requested to provide their new NDCs at least 9-12 months in advance of the relevant meeting of the COP. With every five-year cycle, each Party is required to enhance the overall level of ambition in their NDC relative to their previous submission. Due to the heterogeneity in submissions – some INDCs and NDCs specify implementation commitments over a 5-year timeframe and others a 10-year timeframe; some start in 2020 and others in 2021 – there is currently no alignment on NDC cycles. This issue was deferred to the Conference of the Parties serving as the first meeting of the Parties to the Paris Agreement.⁸

Similarly, information to be provided by Parties to facilitate clarity, transparency and understanding of nationally determined contributions, as well as the procedures for providing this information, are still to be defined by the Ad Hoc Working Group on the Paris Agreement (APA). Proposals are expected to be presented for consideration and adoption by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA).

⁷ As stipulated in Article 14.2 of the Paris Agreement.

⁸ The fast pace at which Parties have ratified the Paris Agreement has resulted in early entry into force. The Conference of the Parties serving as the first meeting of the Parties to the Paris Agreement (CMA1) will now occur in conjunction with COP22 and CMP12 in Marrakech.

3. REVIEW OF DEVELOPING COUNTRY SUPPORT NEEDS

A number of international and regional organizations have assessed the INDCs to determine Parties' overall level of ambition, how specific sectors are included/addressed, and what (if any) support needs are identified by developing countries. Prominent examples relevant to the agricultural sectors include:

- *The Agriculture Sectors in the Intended Nationally Determined Contributions (INDCs): Analysis* (FAO, 2016).⁹
- *Aggregate effect of the intended nationally determined contributions: an update – Synthesis report by the Secretariat* (UNFCCC Secretariat, 2016).¹⁰
- *How countries plan to address agricultural adaptation and mitigation: An analysis of Intended Nationally Determined Contributions* (CCAFS, 2015).¹¹

What follows is a review of the common findings of these three assessments in relation to country support needs for INDC/NDC implementation.¹² This review can inform thinking on which barriers/gaps exist, and thus what types of support the international community should prioritize and provide.

Technology transfer

Countries referred to a range of needs related to technology transfer. Some countries referred to technologies that would support planning and reporting, including technologies for climate observation and monitoring, as well as early warning systems. Others referred to the need for technologies that would support concrete climate action, including: renewable energy; energy optimization; water resources management technologies (including irrigation and wastewater management); and resilient transportation systems, among others.

With regard to technology transfer in the agricultural sectors, some countries outlined the need for technologies to support policy planning, as well as measurement, reporting and verification (MRV). Examples include geographic information systems and remote sensing support, as well as technologies to develop and maintain forest inventories. Some countries referred to technologies needed to support concrete climate action in the agricultural sectors, such as more efficient bioenergy technologies. Some countries referred to their intention to build resilience through ecosystem-based adaptation and the conservation of genetic resources and diversity. Some also referred to the importance of genetic diversity and resources in the context of mitigation, including with regards to improving livestock breeds.

9 This publication is available at: <http://www.fao.org/3/a-i5687e.pdf>.

10 This document is available at: unfccc.int/resource/docs/2016/cop22/eng/02.pdf.

11 This document is available at: www.landscapes.org/glf-2015/wp-content/uploads/sites/9/2015/12/CCAFS-INDC-info-note-Final.pdf.

12 It is important to note that a limited number of countries provided information on the specific areas in which they would like to receive assistance from the international community. This in itself suggests that many developing countries may require additional assistance to identify their specific support needs.

Capacity needs

In terms of capacity building, countries referred to their particular needs for enhanced technical capacities, including a focus on vulnerability and adaptation assessments, cost-benefit analysis and the development of sectoral finance plans. Some referred to the need to create entirely new institutions to facilitate NDC implementation. Others referred to the need for enhanced capacities to: engage stakeholders and facilitate inclusive planning and implementation processes; formulate new strategies, policies and laws; revise existing national policies and plans, including by mainstreaming climate change considerations; monitor and evaluate interventions; track GHG emissions and sinks, as well as adaptation needs and progress; and raise awareness and outreach on critical issues, particularly climate change impacts and adaptation needs.

Some countries also highlighted their capacity needs in the agricultural sectors, including best practices for implementing sustainable forest management, as well as support related to afforestation and reforestation activities. Some countries requested training on how to calculate GHG emissions and removals from the agricultural sectors. Additionally, some countries mentioned the need to develop policies and/or establish institutions (for example in relation to REDD+).

Financial support

Approximately 30 percent of countries included estimates of their financial needs in their INDCs. Almost 150 countries – mostly Least Developed Countries (LDCs), other developing countries and economies in transition – specify their intention to seek international financial support for their adaptation and/or mitigation contributions. However, significant methodological heterogeneity, different time horizons used, and differences in national context and ambition make cross-country comparisons difficult.

Nevertheless, the INDCs provide some insights on financing needs and requirements. All LDCs that submitted INDCs highlighted a need for financial support. Meanwhile, according to CCAFS, the most frequently referenced sources of funding include: international financing (74 Parties); public domestic funding (45); the Green Climate Fund (28); private domestic funding (21); private international funding (14); the Global Environment Facility (13); and the Adaptation Fund (10).

Among Parties that estimated their adaptation funding needs, only 16 explicitly referred to financing requirements for agricultural adaptation, 12 of which are in Africa. Among Parties that estimated the costs of achieving their mitigation targets, 16 included costs associated with agricultural and land use mitigation measures.

Survey on NDC implementation

Collectively, the INDCs included only modest details about developing countries' support needs. As such, some entities have conducted surveys to better inform where/how to structure their support. Prominent among them is a UNDP survey conducted during the UNDP-UNFCCC

regional technical dialogues and sub-regional technical trainings on NDCs.¹³ The survey included responses from 58 developing countries, 11 of which were Small Island Developing States (SIDS), and 19 of which were Least Developed Countries (LDCs).

The UNDP survey found that respondents most often identified a need for capacity development and technical support in relation to: (i) mobilizing resources for NDC implementation (77 percent); (ii) developing NDC implementation plans (67 percent); (iii) developing/improving the information base and monitoring systems (62 percent); and (iv) building institutional structures and coordination mechanisms (61 percent). Other key areas identified as extremely relevant were estimating NDC implementation costs (59 percent) and building awareness and ownership of NDCs at the national level (59 percent). At the time of the survey in the first half of 2016, more than two-thirds of respondents had either not yet started planning for NDC implementation (34 percent) or had only recently initiated such discussions with relevant stakeholders (33 percent).

¹³ The results of the survey are accessible at: www.undp.org/content/undp/en/home/librarypage/climate-and-disaster-resilience/country-needs-support-for-implementation-of-nationally-determine.html.





4. INTERVENTION AREAS

The needs identified by developing countries and international partners point to a set of intervention areas that the international community should prioritize. The provision of this support is vital to assisting developing countries to fulfil their climate commitments, report on progress and enhance ambition. What follows is not an exhaustive list of interventions that are required. Differences in national context, commitments and priorities make such an assessment problematic. Instead, this section provides an overview of common types of gaps that are inhibiting numerous developing countries from achieving their agricultural sector commitments and ambitions, as well as the types of solutions that are required to address these gaps. These are clustered into five intervention areas in which the international community should scale up the availability of support.¹⁴

Some of these intervention areas will require countries to engage in new areas of work. This is particularly true under intervention area 1, which involves monitoring and reporting requirements for many developing countries that are more comprehensive than under the Kyoto Protocol. Other intervention areas build on work that is ongoing in most countries and regions¹⁵ but must be better coordinated and pushed to scale.



¹⁴ There is some overlap between the five intervention areas because they are inter-related elements of a larger process. Where possible, this paper explicitly identifies intervention areas and/or sub-areas that are inter-related and overlap with others.

¹⁵ Existing partnerships, coalitions and initiatives can play an important role in this respect. However, many climate-related partnerships, coalitions and initiatives would benefit from including a stronger focus on the agricultural sectors. Those aimed at supporting the agricultural sectors and sustainable development should mainstream climate change considerations throughout their work.

The five intervention areas are outlined in more detail below.



Intervention area 1 Compliance with the enhanced transparency framework of the Paris Agreement

1.1 National GHG inventories: Reporting requirements for developing countries under the Paris Agreement are more comprehensive than for non-Annex I Parties to the Kyoto Protocol.¹⁶ As a result, many developing countries will require additional capacities and new procedures to collect and analyze the data needed for a comprehensive national GHG inventory. The provision of this support should be a priority for the international community, and is among the commitments made under Article 13 of the Paris Agreement.

Challenges are particularly pronounced in the agricultural sectors, where emissions and reductions (including sources and sinks) are more difficult to assess and monitor than in most other sectors. This is in part because of the types of data required (i.e. land use data and forest inventories). The international community should address these gaps by building the capacities of agricultural stakeholders to collect and analyze relevant data. It should also directly support the collection (i.e. through rural surveys) and analysis (i.e. calculations based on methodologies endorsed by the IPCC) of such data as required. This is vital to support developing countries to fulfil the reporting requirements under the enhanced transparency framework, and can also support evidence-based decision-making on climate change mitigation (as outlined in intervention areas 3.2 and 4.2).

These challenges are compounded by capacity constraints in national statistical agencies, which collect and analyze census data that is vital to building a comprehensive national GHG inventory. The international community should build national statistical agencies' capacities to collect census data, including in rural areas where data collection and reliability is often weaker due to the (often) high degree of informal economic activity. Public sector entities responsible for developing and submitting national GHG inventories may also require support to coordinate the collection of data and inputs from other relevant entities at the national level (i.e. statistical agencies, agricultural stakeholders) and international level (i.e. entities that generate geospatial data).

The international community should also continue building international datasets (e.g. FAOSTAT¹⁷, FAO Global Forestry Resources Assessments and geospatial data) to complement national data, where appropriate. International data can be particularly useful when calculating emissions and removals in the AFOLU sector using Tier 1 methods¹⁸. However, these efforts should not come at the expense of support for the collection and analysis of national data, without which national GHG inventories cannot be built.

¹⁶ Parties will submit national greenhouse gas (GHG) inventories and report on progress made toward achieving their NDC commitments on a biennial basis. Only Least Developed Countries (LDCs) and Small Island Developing States (SIDS) are exempt from these requirements, and will report on progress at their discretion.

¹⁷ FAOSTAT activity data are taken mainly from FAO surveys and the Forest Resources Assessment, and complemented with other international sources. Other activity data is generated using geo-referencing.

¹⁸ Tier 1 methods are the simplest methods for calculating GHG emissions and removals from the AFOLU sector that are endorsed by the Intergovernmental Panel on Climate Change (IPCC) in its 2006 guidelines. The IPCC 2006 guidelines also include Tier 2 and Tier 3 methods, which are more complex but generally considered to produce more accurate estimates.

1.2 Tracking adaptation: Developing country Parties that include adaptation commitments in their NDCs¹⁹ may consider reporting on adaptation progress as part of overall reporting on NDC implementation, even if this is not a formal requirement. Other countries may provide this information as part of their national communications. This not only supports compliance with Articles 7 and 13 of the Paris Agreement, but also improves the visibility of national adaptation plans, progress and needs – information that can facilitate enhanced international cooperation and support. For this reason, LDCs and SIDS may also consider providing this information even if they are not required to do so.

Efforts to track adaptation progress and needs are complicated by the number of different indicators that can be used to do so.²⁰ International consensus has not yet been reached on priority indicators, which has resulted in a lack of guidance. Many developing countries will therefore require support to identify and utilize viable sets of adaptation indicators, set baselines, and ultimately track and report on progress and needs. The international community should develop frameworks that comprise sets of indicators that are sufficiently flexible to account for heterogeneous national circumstances.

Furthermore, many developing countries will require new systems and enhanced capacities to track adaptation progress (i.e. adaptation interventions and their outcomes) and needs (i.e. vulnerabilities, individual and institutional adaptive capacities) at the national level, which goes beyond monitoring and evaluating individual adaptation-oriented programmes and projects. This is a particular issue for the agricultural sectors and rural areas. These are sectors and areas in which vulnerabilities are high, adaptive capacities are often weak, and data collection is sparse. Addressing these capacity and data gaps can have the added benefit of supporting the monitoring and reporting processes under the 2030 Agenda for Sustainable Development.

1.3 Reporting on international support and pending gaps: Under the Paris Agreement, developed countries commit to providing financial support²¹, technology transfer²² and capacity building²³ to developing countries. In turn, developing countries are requested to indicate the climate-related support they have received, and that which they still require, when reporting under the enhanced transparency framework. Many developing countries will require enhanced capacities to effectively track inflows of bilateral and multilateral resources and support, and identify pending gaps and needs.²⁴ Some developing countries have established donor coordination mechanisms that could be used as a basis for doing so. Donors can also contribute to these efforts, including through international initiatives such as the Global Donor Platform for Rural Development.

With regards to the agricultural sectors, many countries struggle to distinguish climate-related support in the agricultural sectors from agricultural sector projects that deliver climate change co-benefits. The development of clear definitions of what constitutes climate-related support to the agricultural sectors should therefore be a priority for the international community. The methodologies used for the Rio Markers provide one possible option for doing so.

¹⁹ Based on the INDCs submitted to the UNFCCC, it is likely that the vast majority of developing country NDCs will include adaptation contributions as well. FAO's assessment of the INDCs found that adaptation contributions were most common among Sub-Saharan African countries (100 percent) and Eastern and South-Eastern Asian countries (100 percent), followed by those in Latin America and the Caribbean (94 percent), Northern Africa and Western Asia (94 percent), Southern Asia (89 percent) and Oceania (79 percent).

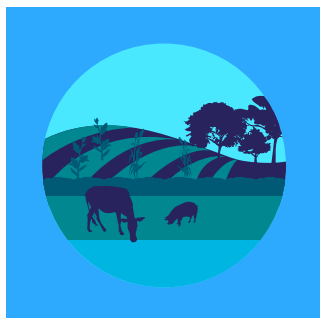
²⁰ The term 'tracking' is used to capture the breadth of work needed to assess adaptation progress, gaps and needs at the national level. This goes beyond monitoring and evaluation, which is typically tied to individual programmes and projects.

²¹ As stipulated in Article 9 of the Paris Agreement.

²² As stipulated in Article 10 of the Paris Agreement.

²³ As stipulated in Article 11 of the Paris Agreement.

²⁴ Article 13 of the Paris Agreement commits to supporting developing countries in this endeavor.



Intervention area 2

Coherent policy frameworks for climate action in the agricultural sectors

2.1 Inclusive national planning: The development of an effective NDC implementation strategy and/or plan should include all representatives of all sectors in which implementation will occur. The same is true of target-setting processes in future NDC cycles. This is vital to ensuring that targets, commitments, policy measures and actions are realistic and effective. Stakeholders from the agricultural sectors warrant particular attention in this respect. In

some developing countries, the growing momentum for climate action in the agricultural sectors has not resulted in increased involvement of agricultural stakeholders in relevant inter-sectoral planning processes. This can undermine the effectiveness of climate-related policy measures in the agricultural sectors, or even result in conflicting measures being pursued by different stakeholders. It will also undermine efforts to enhance agricultural sector ambition in future NDC cycles.

Developing countries should also ensure that planning processes are inclusive of other authorities that could play a significant role in NDC implementation. Sub-national government authorities are often tasked with executing policy priorities, and can therefore provide valuable insights into the feasibility of specific policy measures. Countries should simultaneously ensure that the knowledge and potential contributions of non-state actors are fully seized in subsequent NDC cycles. Non-state actors have already played an important role in driving climate action in many countries, and can make a similarly important contribution to enhancing ambition in the years to come.

The need for planning that is inclusive of agricultural stakeholders, sub-national entities and non-state actors applies to other national climate-related processes as well. This includes National Adaptation Plans (NAPs), which are currently being developed in many developing countries with support from the international community. It also includes Nationally Appropriate Mitigation Actions (NAMAs), particularly given the potential of the agricultural sectors to support enhanced mitigation ambition in future NDC cycles. Similarly, Green Climate Fund (GCF) country programming – which aims to identify short and medium-term priorities for GCF financing, including through multi-stakeholder consultations – should involve agricultural policymakers, sub-national authorities, civil society organizations, relevant private sector actors and community representatives.

2.2 Policy coherence: Effective climate action in the agricultural sectors requires that these sectors are adequately reflected in (and supported through) national climate policy. It also requires systematic mainstreaming of climate change considerations in sectoral policy frameworks, and coherence across policy areas. For example, efforts to combat deforestation through integrated land-use management requires ministries responsible for crops, livestock and forests to collectively pursue approaches that sustainably intensify production on existing land. These different policy areas are rarely under the sole remit of the Ministry of Agriculture, and are often spread across multiple line ministries and government authorities. Similarly, incentive structures are sometimes established without considering their potentially adverse

impacts. Depending on the country context, this lack of policy coherence can either be counter-productive to efforts to respond to climate change²⁵ or result in a missed opportunity²⁶. Many developing countries will therefore require support to bring together relevant ministries and agencies to develop and implement policy frameworks and incentive structures that provide coherent support for climate action in the agricultural sectors. This should build on broader efforts to mainstream climate considerations throughout national policy frameworks.

The need for coherence also extends to different levels of government. National and sub-national government authorities share responsibility for executing policy priorities in many developing countries, but often struggle to coordinate in a way that would produce the best possible policy outcomes. The international community should support developing countries to bring sub-national authorities into discussions aimed at improving policy coherence.

Efforts to improve policy coherence should aim to fulfill the potential of the agricultural sectors to deliver not only climate change benefits, but also support sustainable development. The importance of linking climate action and sustainable development is specified in many developing countries' INDCs, as well as in the Paris Agreement and its associated decisions. This is indicative of growing recognition that the 2030 Agenda cannot be achieved without action on climate change, and that climate action can be an important driver for sustainable development. The agricultural sectors can be transformative in delivering these benefits, particularly with regards to the eradication of poverty, hunger and malnutrition. For example, women and youth are often among the poorest agricultural producers due to their more limited access to education and tenure rights, as well as inputs, technologies and markets. This has limited their productivity and trapped them in poverty, leaving them particularly vulnerable to climate change. By combining investments in climate-resilient agricultural development with non-climate interventions (e.g. empowering rural women and youth through equitable access to education, tenure rights and labour markets), governments can make climate action in the agricultural sectors a powerful driver for sustainable development, and thus for achieving countries' ambitions under the 2030 Agenda.

2.3 Targeted policy support for the agricultural sectors: In many countries, the ambition embedded in INDC/NDC targets goes beyond what can be achieved through existing policy frameworks. Many line ministries will have to pursue new policy initiatives and measures to achieve (or contribute to achieving) mitigation targets, as well as commitments on adapting to exogenous shocks and slow-onset events such as temperature and sea-level rise, as well as changing agro-ecological zones. For some, this may be a substantive departure from the support they are accustomed and equipped to provide.

In many developing countries, agricultural sector policymakers will require support to better integrate climate considerations into policies, strategies, programmes and projects in a way that contributes to national priorities and is coherent with initiatives being pursued by other line ministries. New agricultural sector policy initiatives and measures should be designed and implemented in close collaboration with civil society stakeholders and affected rural communities.

²⁵ For example, input subsidies that are put in place to stimulate domestic food production and enhance food supply may induce inefficient use of synthetic fertilizers and pesticides that increase the emission intensity of production. The indirect effects of production support have to be considered when designing and implementing incentives and agricultural support measures to stimulate the adoption of agricultural practices that contribute to mitigation and adaptation.

²⁶ For example, the Regional Integrated Silvopastoral Approaches to Ecosystem Management Project has demonstrated that payment for ecosystem services (PES) can be an effective means of supporting silvopastoral systems that rehabilitate degraded pastures to protect soils, store carbon and enhance biodiversity. Legislative action would be required to establish PES mechanisms using either domestic or international financial resources.

The international community should place a particular emphasis on supporting countries to utilize climate action in the agricultural sectors as a driver for sustainable development – particularly as a means of eradicating poverty, hunger and malnutrition – in line with their ambitions under the 2030 Agenda. These efforts should be anchored in a national vision for productive, resilient and sustainable agricultural development that can thrive in a changing climate.



Intervention area 3 Research, analysis and tools

3.1 Enhancing the evidence base for adaptation: Due to capacity and resource constraints, research and analysis on vulnerabilities and adaptive capacities has often been limited to specific sectors and/or regions. This is true of immediate adaptation needs in relation to exogenous shocks, as well as longer-term vulnerabilities to slow-onset events such as temperature and sea level rise.²⁷ Knowledge gaps in the agricultural sectors are particularly common and problematic, as most of the world's poorest people earn income from

agricultural work, resulting in a concentration of vulnerabilities in these sectors. Furthermore, assessments of these vulnerabilities require technical expertise in the agricultural sectors and rural livelihoods that is sometimes not available to support these processes. The international community should therefore support developing countries to conduct comprehensive and technically sound assessments of vulnerabilities and adaptive capacities (individual and institutional) in the agricultural sectors. Enhanced capacities to collect and analyze relevant data should also be prioritized (as outlined in intervention area 1.2), as this is vital to building countries' capacities to conduct these assessments in the coming years.

Capacity and resource constraints are also inhibiting countries from identifying viable adaptation options for the agricultural sectors, and prioritizing them using (inter alia) cost-benefit analysis. Due to the immediacy of the climate challenge, the international community should leverage available knowledge and expertise to directly support these analyses in the short run. It should simultaneously strengthen national capacities to identify and prioritize adaptation options (as outlined in intervention areas 1.2 and 4). These are already among the standard steps supported as part of the National Adaptation Plan (NAP) process. This among the many reasons that support for NAPs processes should be scaled up with due consideration for the agricultural sectors.

Efforts to identify and prioritize adaptation options should account for the possibilities that individual interventions can deliver both adaptation and mitigation benefits. The potential for adaptation-mitigation synergies is particularly strong in the agricultural sectors. For example, agro-forestry practices can increase the resilience of agricultural production and livelihoods while enhancing carbon sequestration. The desire to seize adaptation-mitigation synergies is explicitly mentioned in about one-third of all INDCs. Many of these countries referred specifically to the agricultural sectors in this context. It is therefore important that cost-benefit analysis account for both adaptation and mitigation benefits when prioritizing policy measures in the agricultural sectors.

²⁷ One important area for further analysis is the potential impact of slow-onset climate-related events (temperature rise, sea level rise, shifting agro-ecological zones) on livelihoods and communities, and the resulting effects on internal and international migration.

3.2 Enhancing the evidence base for mitigation: Agricultural sector policy decisions that aim to achieve NDC mitigation targets should be informed by rigorous analysis of existing GHG emissions sources and sinks, good knowledge of land use, forest inventories, and the subsequent identification and prioritization of mitigation options. This process is not only vital to achieving existing targets, but is also a pre-requisite to effective planning for enhanced ambition in future NDCs.

The international community should support developing countries to collect data needed to calculate GHG emissions and sinks in the agricultural sectors, where calculation methods can be particularly complex. This is not only vital to identifying priority mitigation options for these sectors, but is also needed to build the national GHG inventory that countries will need to report under the enhanced transparency framework.

Many developing countries will also require support to analyze this data, use this analysis as a basis for identifying viable mitigation options in the agricultural sectors, and ultimately prioritize options based on an assessment of costs (i.e. direct costs, macroeconomic impacts) and benefits (i.e. net mitigation impacts, adaptation co-benefits, social and economic co-benefits). As with efforts to enhance the evidence base for adaptation (intervention area 3.1), the urgency of climate change necessitates that international expertise be availed to directly support this in the short run, while working closely with relevant national institutions and strengthening their capacities to take on these tasks in future NDC cycles (as outlined intervention areas 1.1 and 4.1). Furthermore, action in the agricultural sectors can often deliver mitigation and adaptation benefits simultaneously, as well as other environmental, economic and social co-benefits (as outlined in intervention area 2.3). These potential synergies should be factored into cost-benefit calculations.

3.3 Facilitating South-South cooperation and exchange: Many developing countries are experiencing climate change impacts and/or have pursued adaptation and mitigation approaches that could inform decision-making in other countries. With respect to the agricultural sectors, similarities between agro-ecosystems mean that successful climate action in one country/region can inform action in similar systems elsewhere. However, many developing countries lack access to information about challenges and policy responses in other countries. Networks and fora through which countries can share climate-related information, experiences and lessons learnt are beginning to take shape (i.e. Least Developed Countries Expert Group [LEG]), but have thus far not given sufficient attention to the agricultural sectors.

The international community should actively promote South-South cooperation and exchange to scale up climate action in the agricultural sectors. International organizations can support these processes by strengthening the agricultural sector focus in existing international networks, and/or by facilitating knowledge sharing, South-South cooperation and exchange through global programmes.

3.4 Developing, sharing and utilizing tools and guidelines: Planning, implementing, monitoring and reporting on climate action in the agricultural sectors can be a complex set of tasks. User-friendly tools and guidelines can support developing countries to navigate these processes successfully. However, many existing climate-related tools and guidelines that aim to facilitate

climate action fail to account for the specificities of the agricultural sectors. In addressing these gaps, the international community can facilitate action in all other intervention areas outlined in this paper. Developing countries will in particular require tools and guidelines that: support the identification of vulnerabilities in the agricultural sectors; guide relevant policy and investment processes; and support monitoring and reporting in the agricultural sectors, both at the project level (i.e. M&E) and national level (i.e. national GHG inventories, adaptation tracking), among other areas.

The effective use of relevant tools and guidelines can be complicated by the fact that some agricultural sector stakeholders lack the capacities to utilize available tools, which can still be sufficiently complex to require training and technical expertise. The international community should therefore support skill development – both directly, and through ‘trainings of trainers’ – to equip national and subnational stakeholders to effectively utilize new and existing tools. This is vital to building national and subnational capacities to respond to climate change in the long term.



Intervention area 4

Capacity development for implementation and action in the agricultural sectors

4.1 Strengthening capacities for climate action in the agricultural

sectors: In many developing countries, agricultural stakeholders will require enhanced technical capacities and expertise to effectively support sustainable and climate-smart agricultural development. Some stakeholders may possess relevant technical expertise, but require additional functional capacities to put this expertise into practice by: formulating and implementing policies and leading

policy reform; generating, managing and exchanging information and knowledge; engaging in multi-sectoral networks, alliances and partnerships that are inclusive of sub-national authorities and non-state actors, among other stakeholders (as outlined in intervention area 2.1); and implementing programmes and projects. Capacity gaps in these areas are inhibiting developing countries from scaling up support for climate action in the agricultural sectors.

The international community should strengthen the technical and functional capacities of (state and non-state) agricultural stakeholders to respond to climate change. For example, line ministries' capacities to generate and disseminate agro-meteorological data, as well as deliver climate-smart extension services, are vital to scaling up climate action in the agricultural sectors. Producers' organizations and other local institutions are similarly important. When well capacitated, they can support their members to assess climate-related threats and opportunities, and ultimately adopt practices that are more climate smart. Enhancing capacities to adopt the Climate-Smart Agriculture (CSA) approach can play an important role in fulfilling the potential to seize adaptation-mitigation synergies in the agricultural sectors, and in so doing, enhance overall ambition. Many agricultural sector stakeholders would also benefit from training to improve their overall understanding of climate change issues, as well as systems that improve communication on relevant NDC commitments, plans and processes.

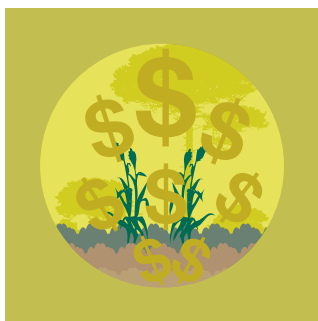
4.2 Strengthening capacities for monitoring and reporting: It is important for developing countries to effectively monitor the implementation of policy measures and other actions pursued under their NDCs. This data is needed to better understand what progress has been made, and ultimately identify success factors and barriers that can inform future policy decisions and NDC commitments. As the number of climate-related policy measures under the remit of agricultural stakeholders grows – and continues to grow in line with the expectation that these sectors will help drive enhanced ambition in future NDCs – these stakeholders will require enhanced capacities to monitor the impacts of their adaptation and mitigation efforts.

The capacity to effectively plan and take action in the agricultural sectors also depends on having a clear overview of vulnerabilities and alternative adaptation options (as outlined in intervention area 3.1). As such, the international community should strengthen the capacities of agricultural line ministries (and other relevant stakeholders) to conduct surveys in rural areas where data collection is currently weak and vulnerabilities to climate change are often most acute. These capacities can also support broader efforts to collect and analyze the data needed to report under the enhanced transparency framework (as outlined in intervention area 1.1 and 1.2).

4.3 Inter-ministerial coordination: Planning, implementation, monitoring and reporting on climate action will be most effective when anchored in an all-of-government approach. Although government ministries are but one set of stakeholders involved in planning and implementing climate action – indeed the role of non-state actors is vital (as outlined in intervention area 2.1) – a coherent government response to the climate challenge is often a pre-requisite to leveraging contributions from the private sector and civil society.

In many countries, coordination efforts are led by a single entity (e.g. Ministry of Environment) that liaises with other relevant stakeholders as needed. These countries could benefit from establishing formal inter-ministerial coordination mechanisms on climate change, or strengthening existing coordination mechanisms to deal with climate issues and commitments. Such mechanisms can provide an institutional apparatus through which to support inclusive planning processes and enhanced policy coherence (as described in intervention areas 2.1 and 2.2).

Inter-ministerial coordination mechanisms can also be used to support coordinated implementation, monitoring and reporting, which can reduce transaction costs and overlapping work, and promote cross-sectoral synergies. This can improve the effectiveness of climate action and help fulfill the potential to use climate action as a driver for sustainable development, in line with countries' ambitions under the 2030 Agenda. It is important that institutional coordination mechanisms include stakeholders that may otherwise be under-represented in climate change policy processes. This includes agricultural sector stakeholders, as well as relevant sub-national government authorities.



Intervention area 5 Investment for the development of the agricultural sectors

5.1 Supporting access to public international climate finance:

Current flows of public international climate finance do not reflect the priorities specified by developing countries in their INDCs. These countries assign the greatest priority to adaptation, yet existing flows of climate finance overwhelmingly favour mitigation.²⁸ Furthermore, the agricultural sectors continue to receive only a modest share of international climate finance, estimated at around USD 4 billion

in 2014.²⁹ Financing flows should reflect the importance that developing countries assign to adaptation, as well as to the agricultural sectors. The agricultural sectors should also be prioritized due to their particular potential to deliver adaptation-mitigation synergies, as well as economic, environmental and social co-benefits. Importantly, the GCF has committed to allocate at least half of its resources to adaptation, and half of its adaptation resources to LDCs, SIDS and countries in Sub-Saharan Africa. This follows a similar push by many bilateral donors to scale up their support for adaptation.³⁰ These trends should be continued and replicated by others. The international community should also mainstream climate considerations into Official Development Assistance (ODA) for the agricultural sectors. ODA for the agricultural sectors remains significantly higher than climate finance flows,³¹ and is thus an important part of the solution.

Direct access to climate finance has proven to be an additional challenge. Multilateral funds such as the Adaptation Fund (AF) and Green Climate Fund (GCF) have established direct access modalities, but state and non-state entities in many developing countries are finding it difficult to meet the accreditation requirements of these funds. Project-level due diligence under these multilateral funds is similarly high. As a result, many developing countries continue to rely on accredited international organizations to access multilateral climate finance. The international community should address these gaps by supporting regional, national and sub-national entities to improve their fiduciary standards, environmental and social safeguard systems, and capacities to formulate and deliver high-quality projects. Agricultural sector stakeholders warrant particular consideration. They will play an important role in scaling up climate action, but often have less experience working with multilateral climate and environment funds. They also possess more limited capacities for direct access to public international climate finance, due in part to the fact that only a select few have benefited from capacity building for climate finance readiness.

5.2 Unlocking private sector investment: In many developing countries there are considerable barriers inhibiting private investment in agricultural development. Access to affordable credit, insurance and other financial services is often limited. The agriculture sectors are considered low-profit and high risk, and financial service providers often lack specialist expertise to assess individual investments. Many refrain from lending to smallholders, who are the principal investors

28 The OECD and Climate Policy Initiative estimate that flows of international climate finance totaled on average USD 57 billion in 2013 and 2014. This includes bilateral and multilateral public climate finance, as well as private sector co-financing that was mobilized by bilateral and multilateral donors. Of this approximately USD 57 billion annual figure, about 77 percent was allocated towards climate change mitigation objectives; 16 percent for adaptation objectives; and 7 percent for cross-cutting activities. For more information, see *Climate Finance in 2013-14 and the USD 100 billion goal (2015)*.

29 See the *State of Food and Agriculture 2016*, available at: <http://www.fao.org/3/a-i6030e.pdf>.

30 The OECD estimates that based on current financing trajectories and commitments, bilateral and multilateral public climate finance is projected to be close to USD 67 billion in 2020. About 67 percent of these resources would be for mitigation only, while 24 percent would be for adaptation only and 9 percent for cross-cutting activities. For more information, see *2020 Projections of climate finance towards the USD 100 billion goal (2016)*.

31 See *The State of Food and Agriculture 2016*.

in primary agriculture. Smallholders often have limited or no collateral and credit history, little financial literacy and are costly to serve because they are physically dispersed and loan volumes are low. Women and youth face particular obstacles. Even small and medium enterprises (SMEs) in rural areas face challenges in accessing finance. Loan conditions are often rigid and frequently restricted to working capital rather than longer term investment capital with flexible repayment rates – conditions that would permit investment switching to more sustainable and climate smart production methods that require upfront investment or transition periods.³²

International and public funding can help address these constraints. They can enhance the capacity of borrowers and lenders to identify and manage climate-smart agricultural investments, including by: demonstrating the viability of such investments; piloting and documenting performance of promising models; and designing and fostering innovative investment vehicles and private-public partnerships that can better manage risks and bridge gaps between potential investors and agricultural clients. Investments in climate-related information systems, as well as conducive policy frameworks and incentive structures (as outlined in intervention area 2.2), are similarly essential to unlock climate smart private investment.

5.3 Guiding national public sector investment: Public expenditure on the agricultural sectors through national budgets is far greater than flows of international financial support,³³ and can shape the patterns of agricultural development in most developing countries. The understanding of climate relevant expenditure is, however, still at its infancy, and government expenditures aimed at developing the agricultural sectors do not yet fulfill their potential to deliver climate change benefits.

To ensure that the best use of existing resources, the international community should enhance developing countries' capacities to track precisely how much of their national budgets are being allocated to respond to climate change, where and how these resources are being allocated, and how effective they are in reaching the desired objectives. Countries should be supported not only to track expenditures, but also to integrate climate change considerations in their sector development plans, programmes and projects to enhance performance and ensure policy coherence (as outlined in intervention area 2). Climate change should also be factored into project appraisal mechanisms, including cost-benefit analysis, that aim to ensure the best possible value for money (as outlined in intervention areas 3.1 and 3.2).

Some developing countries have recently established national climate funds with support from the international community. These provide an additional avenue to leverage public sector investment for climate action in the agricultural sectors.³⁴ In countries where these are established, the international community should support national climate funds to build their agricultural sector portfolios, ensuring that this is commensurate with the importance of the agriculture sectors in countries' INDCs/NDCs, and leveraging both national and international resources for these investments.

32 See The State of Food and Agriculture 2016.

33 By some estimates, domestic government spending on agriculture in developing countries reached approximately USD 252 billion in 2012 (see The State of Food and Agriculture 2016).

34 See, for example, the UNDP guidebook for decision-makers, Blending Climate Finance through National Climate Funds, available at: http://www.undp.org/content/undp/en/home/librarypage/environment-energy/low_emission_climate/resilientdevelopment/blending_climatefinancethroughnationalclimatefunds.html.

Improving coordination among countries and development partners

Countries and development partners have long sought to better coordinate their efforts internationally and at country level. Given the magnitude and urgency of the climate challenge, as well as the number of state and non-state actors likely to be involved in responding, the need for enhanced coordination is all the more pressing.

Developing countries must take the lead in coordinating the inflow of support at country level. The international response to climate change has shifted from a top-down to bottom-up model, placing an overwhelming emphasis on country ownership and leadership. This is embodied in the INDCs/NDCs themselves, as well as in the operational design of the GCF and other UNFCCC-affiliated financial instruments. Countries and development partners are already committed to country led approaches through the Busan Partnership for Effective Development Cooperation.

At the international level, development partners should further strengthen the coordination of their support, leveraging diverse expertise and experience to achieve greater impact on the ground. This requires regular dialogue and coordination at the regional and international levels through existing fora such as the Global Donor Platform for Rural Development. Additional specific partnerships for closer coordination of climate support, such as new multi-stakeholder NDC Partnership, offer a promising avenue to improve collaboration and coordinated action across sectors.



5. CONCLUSION

The Paris Agreement provides the framework the international community needs to mount a comprehensive response to climate change. Developed and developing countries must now underpin their targets and commitments with action at scale. The international community should support developing countries to do so, and to report their results to the UNFCCC and other relevant fora.

The agricultural sectors warrant particular consideration. Their importance in adapting to climate change is clear, as is their potential to enhance mitigation ambition in the coming years. Climate action in the agricultural sectors can also be a driver for sustainable development and the fulfillment of countries' ambitions under the 2030 Agenda. To seize this transformative potential, the international community must respond to developing countries' requests to prioritize support for these sectors, and support them to address the sector-specific challenges and opportunities outlined in the five intervention areas described in this paper.

This will require a concerted and coordinated response from the international community. Guided by the findings of this paper and its new corporate Climate Change Strategy, FAO is committed to working with development partners to mount this coordinated response.






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The agricultural sectors in nationally determined contributions (NDCs)

Priority areas for international support

				
Compliance with the enhanced transparency framework of the Paris Agreement	Coherent policy frameworks for climate action in the agricultural sectors	Research, analysis and tools	Capacity development for implementation and action in the agricultural sectors	Investment for the development of the agricultural sectors

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