# FOOD FORWARD NDCs

## An assessment of Nationally Determined Contributions (NDCs 3.0) for agriculture and food systems transformation

**WWF Food Practice**
WWF is one of the world's largest and most experienced independent conservation organizations, with over 30 million followers and a global network active in nearly 100 counties. Alongside work in areas like wildlife, oceans and forests, the WWF Food Practice works to transform the food system to protect people and planet. Our vision is a food system which provides healthy food to all people while restoring our planet. To help achieve this goal, we work across three pillars of the food system: Sustainable Production, Healthy and Sustainable Diets and Food Loss and Waste.

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**Authors:**
Haseeb Bakhtary (Climate Focus)
Georg Hahn (Climate Focus)
Anna Rynearson (Climate Focus)
Martina Fleckenstein (WWF International Food Practice)

**Contact:**
Martina Fleckenstein (WWF International Food Practice) mfleckenstein@wwfint.org
Haseeb Bakhtary (Climate Focus) h.bakhtary@climatefocus.com

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**Design:**
Silke Roßbach (mail@silke-rossbach.de)


WWF, 28 rue Mauverney, 1196 Gland, Switzerland.
Tel. +41 22 364 9111
CH-550.0.128.920-7
For contact details and further information, please visit our international website at wwf.panda.org

**Photography:**
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# 1. SUMMARY

## Agriculture and food systems sit at the heart of the world's most pressing challenges – both as a driver of global crises and as a powerful lever for change.

Accounting for a third of global greenhouse gas emissions, food systems must be transformed to achieve the Paris Agreement goals. Governments must rapidly slash emissions from food systems and boost their natural carbon sinks to mitigate climate change.

The Paris Agreement sets an ambitious goal for climate change mitigation that requires urgent action in all sectors. Parties agreed to limit the increase in global average temperature to well below 2°C above pre-industrial levels – while pursuing efforts to limit warming below 1.5°C – by the end of the century. For food systems, this implies a rapid transition away from emission-intensive production and toward agricultural practices and land uses that boost carbon sinks.

The Paris Agreement makes specific references to mitigation and adaptation in food systems. The Nationally Determined Contributions (NDCs) under the Paris Agreement provide a platform to bring all policy priorities together and plan and implement food systems measures in a holistic manner. Embodying efforts by each country to reduce national emissions and adapt to the impacts of climate change, NDCs are at the heart of the Paris Agreement and the achievement of long-term climate goals. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. NDCs present a key opportunity for identifying domestic mitigation and adaptation needs and measures to tackle climate change through food systems.

Food systems measures are crucial components of NDCs, contributing to climate mitigation, adaptation, and broader sustainable development, and aligning with the Sustainable Development Goals (SDGs) and the Global Biodiversity Framework (GBF). Given this context, the Food Forward NDCs initiative was created to support governments and other stakeholders with increasing the overall agriculture and food systems ambition in the NDC process by highlighting progress of all kinds, promoting best practices, and identifying challenges. As part of this initiative, this report focuses on the integration of food systems in NDCs 3.0 and how this has changed since the previous NDCs.

The findings of this report's NDC analysis demonstrate that – despite more countries recognising food systems as a crucial part of climate action through international pledges – additional measures and implementation of these plans are needed. In 2025, all Parties to the UNFCCC are meant to submit updated NDCs, or so-called NDCs 3.0. As of October 24, 2025, 63 Parties to the UNFCCC submitted an NDC 3.0, of which 58 were analysed for this report (see Annex for methodology). This report assesses how these NDCs 3.0 integrate food systems measures, and how this has changed compared to their previous submissions.

# KEY FINDINGS

Among the 58 Parties assessed, there is an overall positive trend in the recognition of agriculture and food systems within their climate plans. Almost all NDCs 3.0 (54 NDCs 3.0 or 93%) included at least one measure related to agriculture and food systems, compared to 86% of the same Parties' previous submissions that did so. In general, NDCs 3.0 show an improvement in integrating multiple food systems measures compared to previous submissions. However, the full picture of global progress of agriculture and food systems integration will only be possible once all or most Parties submit their NDCs 3.0. Therefore, this analysis will be updated in early 2026 to incorporate all NDC 3.0 submissions received by the end of 2025.

As detailed in Table 1, most categories show improvement in the inclusion of individual agriculture and food systems measures compared to previous NDCs. However, certain areas – particularly agroecology, sustainable supply chains, and food consumption and diets – present significant opportunities for further improvement, with fewer than half of the 58 assessed NDCs 3.0 currently including specific measures in these areas. Box 1 provides examples of these measures being integrated in a selection of NDCs 3.0.


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**Table 1. Integration of agriculture and food systems measures in NDCs 3.0 and previous NDCs of 58 assessed Parties.**

| Inclusion of: | Within 58 Parties' previous NDCs | | Within 58 Parties' NDCs 3.0 |
|---|---|---|---|
| **Nature-positive production measures** | | | |
| Sustainable agriculture | **49** (84%) | +2 | **51** (88%) ● |
| Sustainable livestock | **32** (55%) | +4 | **36** (62%) ● |
| Sustainable fishing and aquaculture | **22** (38%) | +9 | **31** (53%) ● |
| Climate-smart agriculture | **24** (41%) | +2 | **26** (45%) ● |
| Agroforestry | **26** (45%) | -3 | **23** (40%) ● |
| Agroecology | **6** (10%) | +7 | **13** (22%) ● |
| **Ecosystems** | | | |
| Forests | **55** (95%) | -7 | **48** (83%) ● |
| Marine ecosystems | **35** (60%) | +4 | **39** (67%) ● |
| Wetlands, peatlands, lagoons, swamps | **31** (53%) | +1 | **32** (55%) ● |
| Other ecosystems (e.g., mountains, urban ecosystems) | **18** (31%) | +14 | **32** (55%) ● |
| Grasslands | **15** (26%) | +1 | **16** (28%) ● |
| **Sustainable and resilient supply chains** | | | |
| Circularity (i.e., circular food systems/economies) | **26** (45%) | +1 | **27** (47%) ● |
| Repurposing agricultural organic waste | **17** (29%) | +9 | **26** (45%) ● |
| Prevent or reduce food loss and waste | **10** (17%) | +7 | **17** (29%) ● |
| **Sustainable consumption and healthy diets** | | | |
| Strengthening food security or resilience | **37** (64%) | +6 | **43** (74%) ● |
| Access to sustainable and healthy diets | **2** (3%) | +14 | **16** (28%) ● |
| Improving nutrition | **1** (2%) | +10 | **11** (19%) ● |

**Legend**
- Improvement in inclusion in NDCs 3.0 compared to previous submissions
- Decline in inclusion in NDCs 3.0 compared to previous submissions
- ● >50% inclusion in NDCs 3.0, regardless of trend
- ● <50% inclusion in NDCs 3.0, regardless of trend

Box 1. Examples of integration of food systems measures in NDCs 3.0

## AGROECOLOGY

Bolivia sets a qualitative goal to strengthen the resilience and adaptation to climate change of agricultural production systems will have been strengthened, improving the adaptive capacity of at least 400,000 producers, all through the production of food free from fire and deforestation, productive diversification, agroecological food systems, sustainable soil management and the application of bio-inputs, the strengthening of value chains with a bioeconomy approach, comprehensive climate risk management, access to mechanisms and incentives for green and secure agricultural financing, with social inclusion.

## FOOD LOSS AND WASTE

Cambodia aims to reduce food loss and waste through research, policy development, and pilot projects that encourage reuse and value addition across the food chain. The NDC includes three measures to achieve this: 1) baseline study on food waste in urban and rural situations; 2) policy and programme development for food waste reduction, reuse and value adding; and 3) research and development of cooperative actions and information to reduce food loss and food waste, to manage potential risks along the food chain and support pilot projects to reuse and add value to food waste.

## EQUITY MEASURES

Colombia's NDC 3.0 reaffirms their commitment and advances the full and effective inclusion of women in all their diversity – rural, Afro-Colombian, Indigenous, peasant, Raizal, Palenquera, and fishing women – as well as people with diverse sexual orientations, gender expressions, and identities, in decision-making processes related to climate change and biodiversity. It also seeks to strengthen equal access to resources, opportunities, and benefits derived from climate action.

## HEALTHY AND SUSTAINABLE DIETS

Vanuatu commits to strengthen resilience in agriculture, through ensuring all people in Vanuatu have a nutritionally balanced diet from locally grown foods, including with a focus on traditional practices. The NDC also focuses on improving the availability and affordability of locally produced, healthy, and sustainable food options to replace imported, unhealthy, ultra-processed foods high in fats, sugars, and salt. The plan also mentions improving connectivity between island-based rural, peri-urban, and urban farmers and consumers, and a range of integrated interventions (e.g., new and improved feeder roads, enhanced market infrastructure, food storage and preservation technologies to provide consumers a greater diversity of nutritious locally grown foods).

# KEY OPPORTUNITIES

## A just and equitable agriculture and food systems transformation requires collective efforts at global and national levels to support:

1. **A global shift to nature-positive production:**
   Governments should integrate nature-positive food production systems, based on agroecological principles, in their NDCs and their implementation. These sustainable and regenerative practices enhance carbon storage and the richness and abundance of biodiversity in land and water and rehabilitate the functions of degraded natural systems to deliver a climate-positive future in which people and nature can thrive.

2. **Reduction in food loss and waste and increase in circularity**:
   Food loss and waste is a major cause of emissions and over-use of resources and land. There needs to be an increasing emphasis on circularity to reduce emissions and build more resilient and sustainable food systems.

3. **A transition to healthy, nutritious, and sustainable diets:**
   A transition to diets that are based on local food contexts and produced within planetary boundaries can reduce emissions, protect and restore ecosystems, reduce land-use change, and improve human health and nutrition.

4. **Collaboration at all levels of the food system governance:** A transformative agriculture and food systems approach to climate change must be inclusive, collaborative, based on equity and justice, and involve all stakeholders in designing and implementing relevant interventions.

5. **Focus on equity and justice:**
   A true transformation of agriculture and food systems includes building food environments that are based on equity and right to food which can foster nature-positive production and healthy and nutritious food choices. International efforts must ensure that climate measures do not worsen existing inequalities in agriculture and food systems nor undermine food security. Countries that face climate threats to their food systems are also often burdened by poverty, food insecurity, and high levels of debt. As a result, it is critical to ensure that the needs of all countries, especially the most vulnerable, are fully included and addressed. For example, finance mechanisms should be designed to avoid increasing debt levels for these countries.


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6. **Redesign harmful subsidies to support transformative food system approaches:** Policymakers can redesign subsidies to encourage crop diversification, agroecology, agroforestry, and resilient agricultural practices to incentivize the adoption of these practices.

7. **Finance for agriculture and food systems:** Despite the accelerating climate impacts on agriculture and food systems around the world, finance for climate action in food systems remains vastly insufficient. Developed countries must not only deliver on their current financial commitments for climate but also ramp up finance beyond those existing commitments. Specifically, climate and nature finance pledges and agreements should explicitly include dedicated finance for farmers and local communities and be fulfilled in a timely manner. Supporting the livelihoods of farmers, fishers, and aquaculture workers ensures income stability, enabling continued access to food despite economic and climate-related challenges.

8. **Technological transfer:** Donors and investors can support governments through technology transfer and exchange, sharing existing tools and technologies for sustainable and resilient practices – from early warning systems to soil and food system pest and disease surveillance. Where new technology is found to be beneficial to communities, they must ensure that it is also affordable and accessible.

9. **Aligning NDCs with other national policies and strategies:** Agriculture and food systems intersect with all natural and social systems – including ecosystems such as forests, grasslands, and wetlands, as well as socioeconomic systems such as health, education, culture, finance, infrastructure, energy, and transport. This requires aligning policies and actions across all these systems, including with National Adaptation Plans and National Biodiversity Strategies and Action Plans, to minimize trade-offs and reduce the risk of policy failure.

10. **Support to local efforts**: National mitigation and adaptation strategies must consider the needs of local communities and prioritize community-led efforts, especially among smallholder farmers and Indigenous peoples. Such bottom-up strategies can encourage ownership, boost resilience, and reinforce social cohesion while allowing flexibility in policy implementation – which is essential given the dynamic nature of climate change. This includes investing in locally managed food systems that align with communities' traditional agricultural or pastoral practices and Indigenous innovations, as building local capacities can further advance the achievement of climate goals.

The Food Forward NDCs tool provides comprehensive guidance and tools for 30 policy options in the above areas that can support agriculture and food systems transformation.

# 2. SETTING THE SCENE

## Agriculture and food systems sit at the heart of the world's most pressing challenges – both as a driver of global crises and as a powerful lever for change.

Agriculture and food systems account for a third of global greenhouse gas emissions, emitting over 17 billion tonnes of carbon dioxide equivalent annually, with agricultural production and land use making up over 70% of food systems' emissions.[1] The global food system is also key driver of biodiversity loss, responsible for 70% of freshwater use and 90% of global tropical deforestation.[2] Rising temperatures, shifting rainfall, evolving pest distributions, and intensifying extreme weather events are reducing crop yields[3,4,5] degrading nutritional quality.[6]

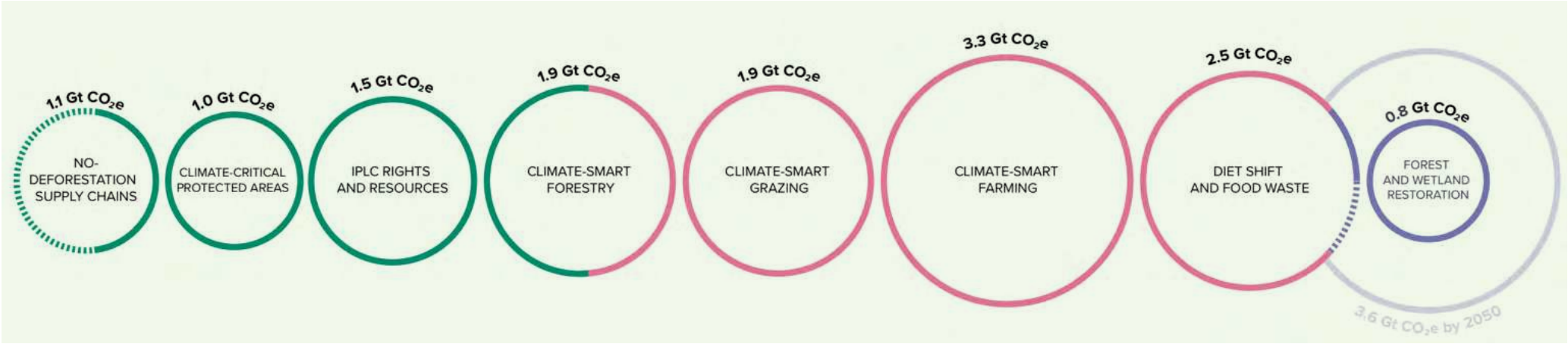
Across all regions, the impacts of a broken food system fall most heavily on those least able to respond. Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change.[7] Increasing weather and climate extreme events have exposed millions of people to acute food insecurity and reduced water security, with the largest negative impacts seen in communities in Africa, Asia, Central and South America, Least Developed Countries, Small Islands and the Arctic, and globally for Indigenous peoples, small-scale food producers and low-income households.[8]

Marginalized and vulnerable communities – like women, smallholder farmers, fishing communities, Indigenous Peoples, and beyond – often face the highest risks of food insecurity, malnutrition, and related health issues.[9] The inequity extends to financing: regions suffering the most acute food insecurity often receive the lowest levels of investment.[10] Funding for food security and nutrition remains highly uneven, leaving many countries without the means to build resilient, sustainable food systems.[11]

A food systems approach to climate change acknowledges that while food and agriculture are among the main drivers of climate change, land degradation, and biodiversity loss, they are also exposed to highest risk from climate change impacts and can be important levers of change to address these crises.[12] Pathways for agriculture and food systems transformation entail holistic, context-specific interventions considering the totality of food systems and their interactions with other natural and human systems thus enabling wider societal changes.[13]

Most of the mitigation opportunities in the land is tied to transition in the agriculture and food systems. The 2022 Exponential Roadmap for Natural Climate Solutions describes how slashing land emissions and boosting natural carbon sinks, can help to move from 12.5 $GtCO_2e$ of greenhouse gas emissions from land each year, to net zero by 2030, to 10 GtCO2e absorbed by carbon sinks by 2050 (see Figure 1).[14] These solutions must be based on better stewardship of natural ecosystems and landscapes, focusing on people living and working on the land – primarily farmers, ranchers, foresters, Indigenous peoples and local communities, and public land managers.

**Figure 1. Mitigation potential from various food systems measures. Source: Conservation International (2022). Conservation.org/roadmap**



## The transformation of agriculture and food systems requires 'pulling all policy levers' across food production, distribution, and consumption – including measures that support shifting to healthy and sustainable diets.[15]

There is no "one-size-fits-all" solution, and the transformation requires supporting a range of transitions along different pathways, tackling varying challenges along the way. Promoting the consumption of healthy and diverse foods – alongside sustainable production practices that maintain or enhance nature and natural ecosystems such as agroecological practices – underpin this transformation. Sustainable production and consumption patterns can be developed through a combination innovative food production practices, social movement advocacy, policy, and cultural change at different scales – including recognising and supporting the different dimensions of local and Indigenous food systems.[16,17]

Action on agriculture and food systems has become an integral part of global climate and biodiversity policy frameworks. The Global Stocktake decision, in its adaptation section, explicitly calls for the "implementation of integrated, multi-sectoral solutions, such as land use management, sustainable agriculture, resilient food systems," and for "climate-resilient food and agricultural production and supply and distribution of food, as well as increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all."[18] And the United Arab Emirates (UAE) Framework for Global Climate Resilience, adopted to operationalized the Global Goal on Adaptation under the Paris Agreement, sets a target for "attaining climate-resilient food and agricultural production and supply and distribution of food, as well as increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all."[19]

Similarly, the Kunming-Montreal Global Biodiversity Framework (GBF) makes an explicit link between global food systems and biodiversity loss.20 The GBF's Target 10 (on enhancing biodiversity and sustainability in agriculture, aquaculture, fisheries, and forestry) and Target 16 (on enabling sustainable consumption choices to reduce waste and overconsumption) explicitly recognize the role of sustainable agriculture and healthy, sustainable food consumption in conserving and restoring biodiversity.

## 'Food forward' NDCs are those that take a holistic approach to integrating and implementing food systems measures, considering all stages of these systems and their interactions with nature and society to ensure sufficient, healthy, and nutritious food for all within the planetary boundaries while building societal and climate resilience.

NDCs under the Paris Agreement provide a platform for each Party to bring all policy priorities together to chart a nature-positive and resilient future. NDCs should ideally embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.

### Box 2. Nationally Determined Contributions in the UNFCC C Process

The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive Nationally determined contributions (NDCs) that it intends to achieve. NDCs are the frameworks in which each country outlines and communicates their post-2020 climate actions. NDCs set the dual purpose of establishing both targets and an action plan to cut emissions and adapt to climate impacts. NDCs are submitted by parties to the United Nations Framework Convention on Climate Change (UNFCCC), and must provide information necessary to facilitate clarity, transparency and understanding (ICTU), which includes quantifiable information on baselines, timeframes for implementation, planning processes, and other methodological approaches. Parties are required to submit new NDCs every five years, increasing their ambition with each round. In addition to NDCs, least developed and developing countries also submit National Adaptation Plans (NAPs) – established in 2010 under the Cancún Adaptation Framework. NAPs are national frameworks that identify a country's medium- and long-term adaptation needs and develop strategies to address these vulnerabilities. Whereas the adaptation components of a country's NDC establish its global commitment to adapt to climate change impacts, NAPs serve as domestic planning documents to evaluate and address the country's adaptation needs.

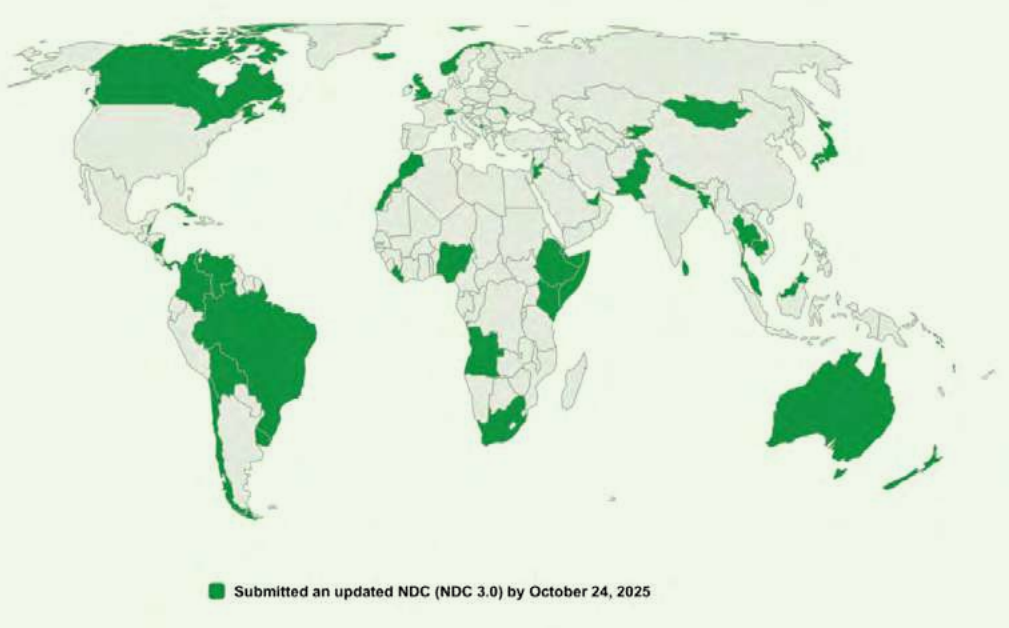
NDCs are central to the Paris Agreement as Parties are to submit their NDCs containing their domestic plans to the UNFCCC Secretariate. Regardless of a Party's implementation plan or status of its existing NDC, Parties are requested to submit a new or updated NDCs every five years starting in 2020, five years after the 2015 signing of the Paris Agreement.

**The objective of this report is to assess how targets and policy measures related to agriculture and food systems are integrated into NDCs 3.0, and how this integration has evolved from Parties' previous submissions.**

# METHODOLOGY AND APPROACH

In 2022, we reviewed 134 updated NDCs submitted by October of that year. In a summary assessment in 2024, we added updated NDCs submitted by 12 other Parties to our assessment, bringing the total number of reviewed NDCs to 146 submissions. Of these, 58 Parties submitted a new updated NDC (NDC 3.0) as of October 24, 2025. See Figure 2, below, and Annex for the full list of countries.

**Figure 2. Countries that submitted an updated NDC (NDC 3.0) as of October 2024, 2025**




This report reviews the previous NDCs and NDCs 3.0 of these 58 Parties. The NDCs were reviewed to determine to what extent food systems measures are incorporated in these climate plans using an updated methodology based on the version from the 2022 report.

The review and analysis involved four steps:

1. **Gathering qualitative information from each NDC:**
   The updated assessment framework identified information related to food systems in each NDC. Qualitative information was gathered through a keyword search of terms related to agriculture and food systems including equity considerations, co-benefits, and ecosystems in each NDC. See detailed methodology in Annex.

2. **Assessing the quality of food systems measures in NDCs**:
   An analysis framework gauged the degree and scope of food systems measures within all updated NDCs and compared this with the previous versions of these NDCs.

3. **Identifying trends and gaps:**
   Trends in updated NDCs and previous NDCs and between the NDCs of individual countries were identified to determine if and how updated NDCs have changed regarding incorporation of food systems measures.

4. **Deep-dive assessments:**
   The team conducted a thorough review of NDCs 3.0 of six Parties where WWF and partner organizations organized national stakeholder dialogues during 2024 and 2025 to strengthen their NDCs for agriculture and food systems transformation using the Food Forward NDCs tool.

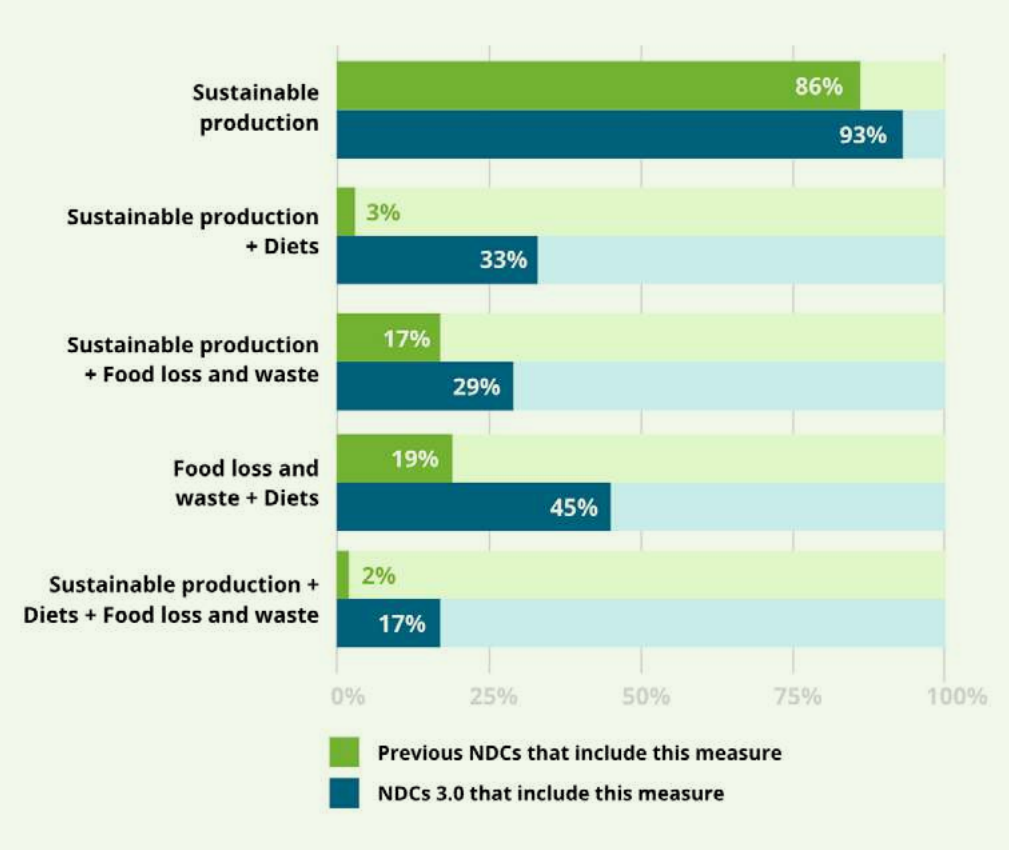
# 3. FINDINGS

# FOOD FORWARD NDCS 3.0

## Among 58 assessed Parties, 56 (93%) of them include targets and measures related to agriculture and food systems in their NDCs 3.0 – an increase compared to previous submissions, as 86% of these Parties' previous NDCs included such targets and measures.

NDCs 3.0 are more comprehensive than previous NDCs when it comes to integrating measures related to various components of food systems – from food production to post-harvest transportation, processing and storage, to consumption and disposal (see Figure 3). Integrating multiple measures to address all parts of food systems helps minimise policy trade-offs and can yield multiple positive outcomes for people, climate, and the planet.

**Figure 3. Integration of different measures in NDCs 3.0. Total: 58 Parties**




## 43 NDCs 3.0 (74%) consider food systems in both mitigation and adaptation measures, a small increase from assessed Parties' previous NDCs, in which 42 included this content.

The continued integration of food systems in climate pledges can be seen in mitigation measures. Among the 58 Parties assessed, 51 NDCs 3.0 included food systems in their mitigation plans, up from 47 previous NDCs that did so. The number of NDCs 3.0 mentioning food systems in adaptation measures (48 NDCs) remained the same as the previous round of submissions.

Policy measures and actions related to agriculture and food systems in NDCs include specific actions, practices, strategies, or regulations aimed at mitigation or building food systems resilience that fall into four categories: nature-positive food production, reducing food loss and waste, shifting to sustainable and healthy diets, and inclusive food governance interventions.

# NATURE-POSITIVE FOOD PRODUCTION

Nature-positive food production systems advance the protection and restoration of nature by relying on agroecological principles and practices that enhance the richness and abundance of biodiversity in land and water and rehabilitate the functions of degraded natural systems to deliver a climate-positive future in which people and nature can thrive.[21,22] Practices including organic farming, agroforestry, and regenerative farming have gained prominence as approaches to protect, manage, and restore nature, as well as to reduce emissions, while providing healthy food and securing the livelihoods of the people that produce it.[23]

## Among the 58 assessed Parties, 51 (88%) of NDCs 3.0 include at least one measure related to nature-positive food production which is a small improvement compared to 49 (84%) of previous NDCs.

Among these measures, the inclusion of agroecology, climate-smart agriculture, sustainable livestock and aquaculture has improved since their previous NDCs while inclusion of agroforestry has declined (see Figure 4). However, overall, the interconnected practices like agroecology and agroforestry remain less common and mostly developing countries such as Bangladesh, Bolivia, Colombia, Cambodia have included agroecology explicitly. Table 2 shows which nature-positive practices are included in NDCs 3.0 and previous NDCs. Table 3 illustrates examples of measures for each practice in NDCs 3.0.

**Figure 4. Inclusion of nature-positive food systems measures in NDCs 3.0 vs. previous submissions. Total: 58 Parties**

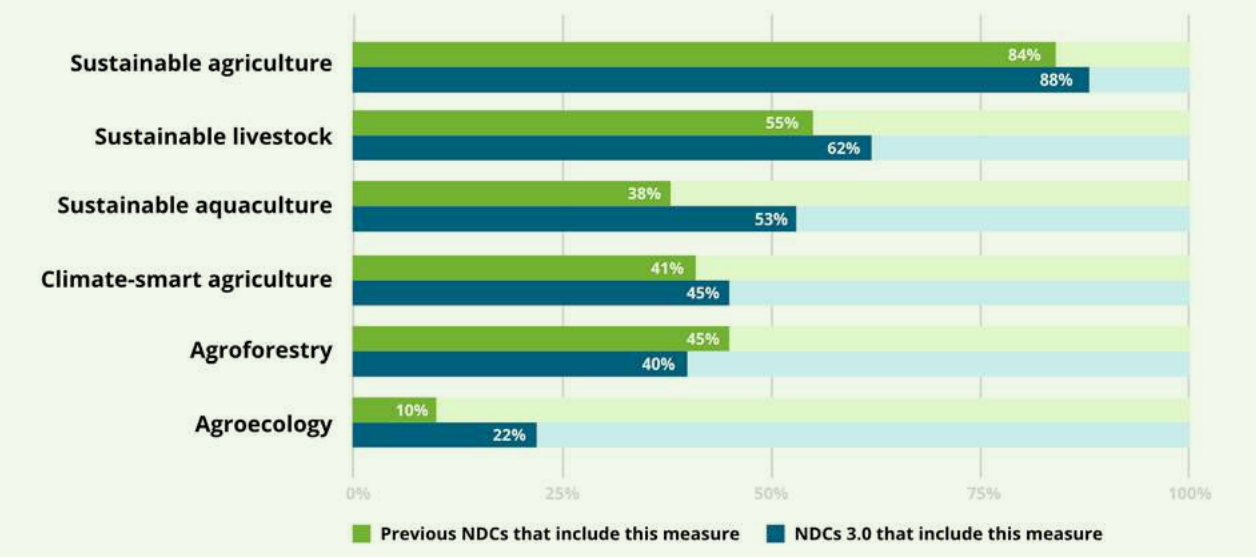


Table 2. Presence of nature-positive measures in NDCs 3.0 and Previous NDCs

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| ANDORRA | Previous NDC | ✓ | | | | | |
| | NDC 3.0 | ✓ | | | | ✓ | |
| ANGOLA | Previous NDC | ✓ | | ✓ | | | ✓ |
| | NDC 3.0 | ✓ | | ✓ | | ✓ | |
| AUSTRALIA | Previous NDC | | | | | | |
| | NDC 3.0 | | | | | ✓ | |
| BANGLADESH | Previous NDC | ✓ | | | | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| BARBADOS | Previous NDC | | | | | | ✓ |
| | NDC 3.0 | ✓ | | | ✓ | ✓ | ✓ |
| BELIZE | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | ✓ |
| BOLIVIA | Previous NDC | ✓ | | ✓ | | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | | | ✓ | |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| BRAZIL | Previous NDC | ✓ | | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | | ✓ | |
| CAMBODIA | Previous NDC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| CANADA | Previous NDC | ✓ | | | ✓ | | |
| | NDC 3.0 | ✓ | | | | | |
| CHILE | Previous NDC | ✓ | | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | | | | ✓ |
| COLOMBIA | Previous NDC | ✓ | | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ | ✓ | |
| CUBA | Previous NDC | ✓ | | | | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | | ✓ | ✓ |
| ESWATINI | Previous NDC | ✓ | ✓ | | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | |
| ETHIOPIA | Previous NDC | ✓ | | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | ✓ | ✓ | ✓ |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| ICELAND | Previous NDC | | | | | | |
| | NDC 3.0 | | | | | | |
| JAMAICA | Previous NDC | ✓ | | ✓ | | | |
| | NDC 3.0 | | | | | | |
| JAPAN | Previous NDC | ✓ | | | | | ✓ |
| | NDC 3.0 | | | | | ✓ | ✓ |
| JORDAN | Previous NDC | ✓ | | | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | ✓ | | |
| KENYA | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | ✓ |
| KYRGYZSTAN | Previous NDC | ✓ | | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | | ✓ | |
| LEBANON | Previous NDC | ✓ | | | | | |
| | NDC 3.0 | ✓ | | ✓ | ✓ | | ✓ |
| LIBERIA | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | | ✓ | ✓ | ✓ |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| MALAYSIA | Previous NDC | ✓ | | | | | |
| | NDC 3.0 | ✓ | | | ✓ | ✓ | ✓ |
| MALDIVES | Previous NDC | ✓ | | | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | | ✓ | | ✓ |
| MARSHALL ISLANDS | Previous NDC | | | | | | |
| | NDC 3.0 | | | | | | ✓ |
| MAURITIUS | Previous NDC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | ✓ |
| MICRONESIA | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | ✓ |
| MOLDOVA | Previous NDC | ✓ | ✓ | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | |
| MONACO | Previous NDC | | | | | | |
| | NDC 3.0 | | | | | | |
| MONGOLIA | Previous NDC | ✓ | | | | ✓ | |
| | NDC 3.0 | ✓ | | | ✓ | ✓ | ✓ |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| MONTENEGRO | Previous NDC | | | | | | |
| | NDC 3.0 | ✓ | | | | | |
| MOROCCO | Previous NDC | ✓ | | | | | ✓ |
| | NDC 3.0 | ✓ | ✓ | | | ✓ | ✓ |
| NEPAL | Previous NDC | ✓ | | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | | ✓ | |
| NEW ZEALAND | Previous NDC | ✓ | | | | | |
| | NDC 3.0 | ✓ | | | | | |
| NICARAGUA | Previous NDC | ✓ | ✓ | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | ✓ | | | ✓ | ✓ |
| NIGERIA | Previous NDC | ✓ | | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| NORWAY | Previous NDC | ✓ | | | | | |
| | NDC 3.0 | ✓ | | | | | |
| PAKISTAN | Previous NDC | ✓ | | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | ✓ | | |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| PANAMA | Previous NDC | ✓ | | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | | | ✓ | ✓ |
| SAINT LUCIA | Previous NDC | ✓ | | | | | |
| | NDC 3.0 | ✓ | | ✓ | ✓ | | ✓ |
| SAO TOME AND PRINCIPE | Previous NDC | ✓ | | | | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| SERBIA | Previous NDC | ✓ | | | | ✓ | |
| | NDC 3.0 | ✓ | | | | ✓ | |
| SEYCHELLES | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | | | | | | |
| SINGAPORE | Previous NDC | | | | | | |
| | NDC 3.0 | ✓ | | | | | |
| SOLOMON ISLANDS | Previous NDC | | | | | | |
| | NDC 3.0 | ✓ | | ✓ | | ✓ | ✓ |
| SOMALIA | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | ✓ |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| SOUTH AFRICA | Previous NDC | ✓ | | | ✓ | | |
| | NDC 3.0 | ✓ | | | | ✓ | ✓ |
| SRI LANKA | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ | ✓ | ✓ |
| SWITZERLAND | Previous NDC | | | | | | |
| | NDC 3.0 | ✓ | | | | | |
| TUNISIA | Previous NDC | ✓ | | | | ✓ | ✓ |
| | NDC 3.0 | ✓ | | | | | |
| TUVALU | Previous NDC | ✓ | | | | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | | | ✓ |
| UNITED ARAB EMIRATES | Previous NDC | ✓ | | | ✓ | | ✓ |
| | NDC 3.0 | ✓ | ✓ | | ✓ | | ✓ |
| UNITED KINGDOM | Previous NDC | ✓ | | | | | ✓ |
| | NDC 3.0 | ✓ | | | | | ✓ |
| UNITED STATES | Previous NDC | ✓ | | | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | ✓ | | |

| Party | NDC version | Sustainable agriculture | Agroecology | Agroforestry | Climate smart agriculture | Sustainable livestock | Sustainable aquaculture |
|---|---|---|---|---|---|---|---|
| URUGUAY | Previous NDC | ✓ | | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | ✓ | | | ✓ | |
| VANUATU | Previous NDC | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ZIMBABWE | Previous NDC | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | ✓ | ✓ | |

**Table 3. Examples of nature-positive measures in NDCs 3.0**

| Nature-positive measure | Party | Example measure |
|---|---|---|
| AGROECOLOGY | **Colombia** | NDC 3.0 recognizes agroecology as one of the guiding principles for mitigation and adaptation in the agricultural sector. |
| | **Bolivia** | For NDC 3.0, Bolivia plans to rely on agroecological practices while increasing average annual yields of strategically important crops by 30% by 2035 compared to the 2019-2024 average. This approach is supposed to contribute to reduction and capture of more than 102 million $tCo_2e$ in the country. |
| AGROFORESTRY | **Somalia** | The NDC 3.0 combines agroforestry with drought-resistant plant varieties and seed systems, conservation tillage, crop diversification, and crop rotation, among other measures, to increase land and crop productivity. |
| | **Mauritius** | Mauritius plans to use agroforestry, pasture creation, and other silvicultural practices for adaptation of its livestock production sector. These plans are, however, subject to international financial and technological assistance. |
| SUSTAINABLE LIVESTOCK | **Bolivia** | NDC 3.0 sets the target to implement sustainable and regenerative livestock farming on more than 155,000 hectares. Adoption of relevant production technologies and practices will reduce and capture at least 58 million $tCO_2e$. |
| | **Uruguay** | NDC 3.0 proposes to establish a public-private partnership for genetic improvements in cattle and sheep to lower emissions intensity of meat, wool, and dairy production. |
| | **Somalia** | NDC 3.0 mentions that implementation of improved livestock production practices could contribute to reducing emissions by 4.2 $MtCO_2e$ from the country's agriculture sector. Measures include improved manure management, adjusted feeding practices, rotational grazing, rangeland restoration, and expansion of veterinary services. |
| FISHERIES AND AQUACULTURE | **Nigeria** | Nigeria plans to establish research and extension centres for sustainable and climate-resilient fisheries management and development in 3,000 clusters of fisheries villages and communities. |
| | **Tuvalu** | The NDC 3.0 aims to decarbonize the sector by transitioning to more eco-friendly engines and less polluting fuels for its fleet of maritime and community fishing vessels. |
| | **The Maldives** | The NDC 3.0 aims to strengthen skill development, research, and education in the fisheries sector to promote innovation. Furthermore, the country seeks to pursue climate-friendly fishing technologies and improve capacities to monitor and manage fisheries and ocean resources. Nigeria's NDC 3.0 also identifies fishing quotas as a strategy to preserve habitats, stocks, and diversity of critical fish species. |
| | **Saint Lucia** | Saint Lucia's NDC 3.0 also lists fishing quotas alongside gear restrictions and development of sustainable aquaculture as measures to preserve the long-term viability of the fisheries sector. |

# INCLUSION OF ECOSYSTEMS

In addition to specific food production practices, measures to protect, manage, and restore key ecosystems like forests, grasslands, mangroves, marine ecosystems are crucial to ensure food production within ecological limits and build climate resilience. Countries must significantly increase the area of natural ecosystems under protection and sustainable management to address the climate and biodiversity challenges. Food systems account for 90% of tropical deforestation and are the primary driver of biodiversity loss.[24,25] Protection of areas most at risk of conversion around the world would provide emissions savings of about 1 $GtCO_2e$ per year by 2030.[26] However, this must be based on fair and equitable approaches in collaboration with Indigenous peoples and local communities, who are stewards of most of these ecosystems.

## Inclusion of specific ecosystems in NDCs has slightly declined. 55 (95%) NDCs 3.0 mention one or more ecosystems (e.g., forests, grasslands, wetlands) compared to 57 (98%) previous NDCs that did so.

Forests are the most prominent ecosystems considered in NDCs 3.0 (with 83% of NDCs 3.0 mentioning them), though an even greater share of previous NDCs considering forests (95%). The inclusion of other key ecosystems such as wetlands, grasslands, and marine ecosystems has increased in NDCs 3.0 (see Figure 5). Positively, countries like Bangladesh, Cambodia, Kenya, Bolivia, Colombia, Vanuatu, and Nigeria – where food systems depend on multiple natural ecosystems – include considerations for each of these in their NDCs 3.0. On the contrary, countries like Brazil, Canada, and New Zealand – which are home to biodiversity-rich forests, wetlands, grasslands, mangroves, rivers, and other ecosystems – include only one or two ecosystems in their NDCs 3.0. Table 4 shows which nature-positive practices are included in NDCs 3.0 and previous NDCs. Table 5 illustrates examples of measures for each practice in NDCs 3.0.


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Figure 5. Inclusion of different ecosystems in NDCs 3.0 vs. previous submissions. Total: 58 Parties

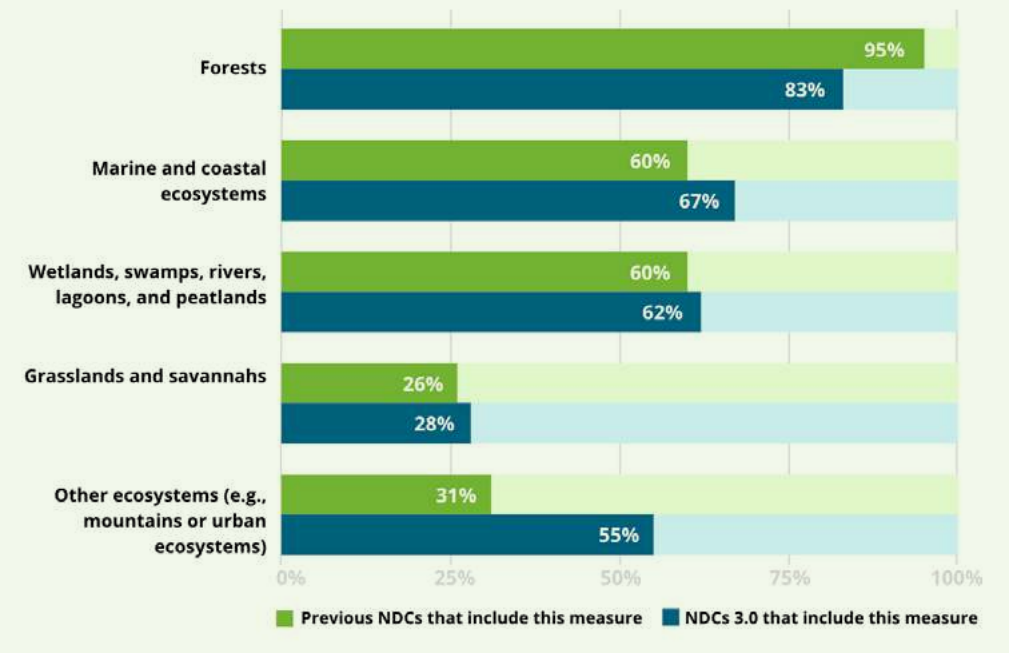



Table 4. Presence of different ecosystems in NDCs 3.0 and previous NDC

| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| ANDORRA | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | | | |
| ANGOLA | Previous NDC | ✓ | ✓ | | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| AUSTRALIA | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| BANGLADESH | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| BARBADOS | Previous NDC | | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | | |
| BELIZE | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | | ✓ |
| BOLIVIA | Previous NDC | ✓ | ✓ | | ✓ |
| | NDC 3.0 | ✓ | | ✓ | |

| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| BRAZIL | Previous NDC | ✓ | | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | | |
| CAMBODIA | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| CANADA | Previous NDC | ✓ | | ✓ | ✓ |
| | NDC 3.0 | | | ✓ | ✓ |
| CHILE | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| COLOMBIA | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| CUBA | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | | |
| ESWATINI | Previous NDC | ✓ | | ✓ | ✓ |
| | NDC 3.0 | ✓ | | ✓ | ✓ |
| ETHIOPIA | Previous NDC | ✓ | | ✓ | ✓ |
| | NDC 3.0 | ✓ | | | |


| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| ICELAND | Previous NDC | ✓ | | ✓ | ✓ |
| | NDC 3.0 | | | | |
| JAMAICA | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| JAPAN | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| JORDAN | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | |
| KENYA | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| KYRGYZSTAN | Previous NDC | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | | |
| LEBANON | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | | |
| LIBERIA | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |

| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| MALAYSIA | Previous NDC | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | | |
| MALDIVES | Previous NDC | | ✓ | | |
| | NDC 3.0 | | ✓ | | |
| MARSHALL ISLANDS | Previous NDC | | | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| MAURITIUS | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| MICRONESIA | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| MOLDOVA | Previous NDC | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | ✓ |
| MONACO | Previous NDC | ✓ | | | |
| | NDC 3.0 | | ✓ | | |
| MONGOLIA | Previous NDC | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | ✓ |


| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| MONTENEGRO | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | | | |
| MOROCCO | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| NEPAL | Previous NDC | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | |
| NEW ZEALAND | Previous NDC | ✓ | | ✓ | |
| | NDC 3.0 | | | | |
| NICARAGUA | Previous NDC | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| NIGERIA | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| NORWAY | Previous NDC | ✓ | | ✓ | ✓ |
| | NDC 3.0 | | | | |
| PAKISTAN | Previous NDC | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | |

| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| PANAMA | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | ✓ | | |
| SAINT LUCIA | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | | |
| SAO TOME AND PRINCIPE | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | | ✓ |
| SERBIA | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | | | |
| SEYCHELLES | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | | ✓ | | |
| SINGAPORE | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | | |
| SOLOMON ISLANDS | Previous NDC | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| SOMALIA | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |


| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| SOUTH AFRICA | Previous NDC | ✓ | | | ✓ |
| | NDC 3.0 | | ✓ | ✓ | |
| SRI LANKA | Previous NDC | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| SWITZERLAND | Previous NDC | ✓ | | | |
| | NDC 3.0 | ✓ | | | |
| TUNISIA | Previous NDC | ✓ | ✓ | ✓ | |
| | NDC 3.0 | | ✓ | | |
| TUVALU | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | | ✓ | | |
| UNITED ARAB EMIRATES | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| UNITED KINGDOM | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | |
| UNITED STATES | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | | ✓ | ✓ |

| Country | NDC version | Forests | Marine ecosystems | Wetlands | Grasslands/ Savannas |
|---|---|---|---|---|---|
| URUGUAY | Previous NDC | ✓ | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | | ✓ |
| VANUATU | Previous NDC | ✓ | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ | ✓ |
| ZIMBABWE | Previous NDC | ✓ | | ✓ | |
| | NDC 3.0 | ✓ | | ✓ | ✓ |

**Table 5. Examples of ecosystems integrated into NDCs 3.0**

| Ecosystem | Party | Example of integration |
|---|---|---|
| FORESTS | **Angola** | Angola's NDC 3.0 sets several forest-related mitigation targets that are explicitly not conditional upon international assistance. The country commits to reforesting 1.004.347 ha, avoiding deforestation on 555.000 ha, assisting forest regeneration on 1.068.497 ha, and reforesting 500 hectares with agroforestry. |
| | **Nigeria** | Nigeria aims to lower its deforestation rate by 60% by 2035 to mitigate 304.8 Mt CO2e in emissions from forest loss. At the same time, Nigeria seeks to sequester 34.4 Mt CO2e of carbon by increasing forest area through reforestation and afforestation. |
| | **Liberia** | Liberia aims to reduce GHG emissions and enhance carbon sinks by reducing the national deforestation rate to 10% by 2035 compared to 2022. In addition, the country plans to plant trees on an average of 600 hectares per year from 2026 and establish at least four new protected areas covering more than 200,000 hectares of forests by 2029. |
| | **Chile** | Chile aims to reduce emissions from deforestation and degradation of native forests by 25% by 2030 compared to average emissions from 2001-2013. To this end, the country commits to sustainable management and restoration of 200,00 hectares of native forests, representing annual GHG removals of around 0.9-1.2 MtCO2e by 2030. Additionally, Chile commits to reforesting 200,00 hectares – oh which at least 100,000 hectares will be permanently reforested – to capture 3-3.4 MtCO2e per year by 2030. After 2030, the country aims to reforest an annual average area of 5,000 ha, equivalent to GHG removals of around 0.3 MtCO2e in 2035. |
| MARINE OR COASTAL ECOSYSTEMS | **Bangladesh** | Bangladesh aims to restore 100,000 hectares of coastal ecosystems such as coral reefs, salt marshes, and mangrove forests and associated fish stocks, with 20% of this target being unconditional (i.e., not contingent on international assistance). |
| | **Panama** | Panama commits to restoring 2,500 hectares of degraded mangrove forests by 2035. This effort is part of a larger push to revitalize a total of 100,000 hectares in ecosystems, which will increase carbon sink capacity by 3.6%. |
| | **Maldives** | The Maldives intends to protect coastal resources through implementation of Integrated Shoreline Management Plans and restoration of mangrove forests and seagrass meadows. |
| | **Jamaica** | In its NDC 3.0, Jamaica sets the targets of restoring 7,000 hectares of mangrove forests by 2027 and protecting two thirds of the island's mangrove forests by 2033. |
| WETLANDS | **Uruguay** | Uruguay's NDC 3.0 sets the target of conserving almost 5,000 hectares of intact peatlands by 2035. |
| | **Nepal** | Nepal plans to create a national wetlands inventory and prioritize vulnerable wetlands for sustainable management by 2030. These efforts are supposed to be expanded further until 2035. |
| | **Bangladesh** | In the context of adaptation, Bangladesh's NDC 3.0 recognizes wetlands conservation and restoration as measure to preserve and strengthen drinking water supplies, especially in remote and water-stressed areas. |
| SAVANNAHS OR GRASSLANDS | **Australia** | Australia's NDC 3.0 outlines the country's efforts to implement savannah fire management projects across 34 million hectares in north Australia. 70% of this area is managed by First Nations using traditional knowledge. |
| | **São Tomé and Príncipe** | The NDC 3.0 of São Tomé and Príncipe includes conditional measures for fire prevention on more than 4,400 hectares of savannahs. |
| | **Uruguay** | Uruguay's NDC 3.0 incorporates good practices for managing natural grasslands and breeding herds covering 2,500,000 hectares of grasslands. |
| | **Zimbabwe** | Zimbabwe's NDC 3.0 sets the target of reducing the area of burned grassland by 30,000 hectares per year by 2035 compared to 2022 baseline levels. |

## Opportunities to shift nature-positive food production that preserve and restore ecosystems:

Nature-positive food production systems protect ecosystems, enhance the richness and abundance of biodiversity in land and water and rehabilitate the functions of degraded natural systems to deliver a climate-positive future in which people and nature can thrive.[27,28,29,30,31]

Policy measures for nature-positive food production include the following, among others:

- **Preserve and restore ecosystems** – as part of nature-positive landscapes, protect natural ecosystems against new conversions for food and feed production, to sustainably manage existing food production systems for the benefit of both nature and people, to restore degraded ecosystems across forests, wetlands, coastal areas, grasslands, and other critical habitats through regulation and land-use planning.

- **Reducing the use of harmful agricultural inputs** such as synthetic or inorganic agrochemicals to reduce soil, water, and air pollution as well as waste.[32]

- **Transitioning to renewable energy-efficient water use** and improved efficiency measures, especially in the production of inputs.[33]

- Investing in large scale soil restoration and rehabilitation.34 Practices to enhance soil health are vital for biodiversity because they support complex below-ground ecosystems and enhance soil fertility, thereby boosting productivity and resilience across food landscapes.35

- **Investing in digital technology** including better weather information, traceability of supply chains and early warning systems for pest and disease outbreak.[36]

- **Encouraging a more holistic understanding of agriculture**, not only as a system for producing healthy food but also for ensuring healthy soil, biodiversity, clean water, landscape management, and livelihoods for communities.[37]

- **Protecting and supporting the recovery of agrobiodiversity**, pollinators, and organisms critical for soil fertility and soil health and investing in large scale soil restoration and rehabilitation.[38]

- **Promoting nutrition-sensitive agriculture practices** to ensure food is produced in adequate quantity and quality in alignment with cultural values while also safeguarding water and other natural resources.[39]

- **Redirecting finance and repurposing subsidies** to support more sustainable land-use practices while investing in production of diverse foods.[40]

- Integrated production systems such as agroforestry and silvo-pasture to significantly enhance biodiversity in agricultural landscapes.41 For instance, silvo-pastoral landscapes where woody perennials, grasses, and animals interact biologically in the same land unit create habitats for wildlife and promote biodiversity conservation through landscape connectivity.[42]

- **Sustainable livestock management** and improved grazing land management practices to mitigate climate change, enhance resilience to climate change impacts, and contribute to food security and health, economic, and environmental well-being.[43]

- **Sustainable fishing** to maintain aquatic and marine ecosystems, protecting aquatic and marine biodiversity, and ensuring the resilience of coastal, marine, and aquatic environments.[44]

- **Sustainable aquaculture**, which has a relatively smaller environmental footprint, to expand sustainable production of aquatic foods while minimizing further pressure on natural ecosystems.[45]

- Increasing the area of protected peatlands and restoring peatlands can help (re) store carbon, while simultaneously supporting healthy biodiversity. Only 1% of existing peatlands are currently protected, potentially enabling peatlands to be drained for agriculture use and land conversion, which would release carbon dioxide and methane.[46]

# SUSTAINABLE AND RESILIENT SUPPLY CHAINS TO REDUCE FOOD LOSS AND WASTE

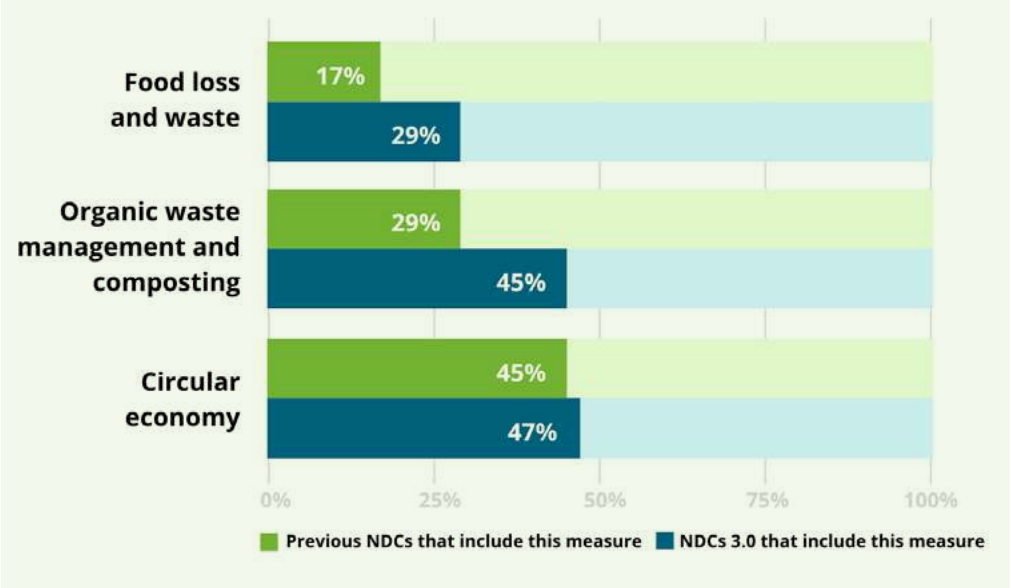
In 2023, it was estimated that around 13.3% of food harvested globally was lost at post-harvest stages (through the farm, transport, storage, wholesale and processing value chain stages).[47] And according to 2024 UNEP statistics, 19% more is wasted at the retail, food service and household levels.[48] Food loss and waste not only results in greenhouse gas emissions, but also drives the degradation of land, water, and soil – all of which are critical to food production.[49] Hence, managing food supply chains to reduce food loss and waste has significant impacts on biodiversity and climate. Food supply chains can be improved to reduce food loss and waste reducing pressure on resources by reducing demand.[50]

## 26 (45%) NDCs 3.0 consider post-harvest food measures that can reduce food loss and waste, compared to 18 (31%) of the same Parties' previous NDCs.

Measures like improving supply chain technologies, composting, and broader circular approaches in food systems that can help to address food loss and waste are increasingly considered in NDCs (see Figure 6). However, only 13 NDCs 3.0 – mainly from developing countries, except the United Kingdom, United States, and the United Arab Emirates – include an explicit target or action to prevent or reduce food loss and waste. This is even though 56% of Developed countries account for 56% of global food loss and waste.[51]

Table 6 shows which practices for sustainable and resilient supply chains are included in NDCs 3.0 and previous NDCs. Table 7 illustrates examples of measures for each practice in NDCs 3.0.


**Figure 6. Supply chain measures in NDCs. Total: 58 Parties**



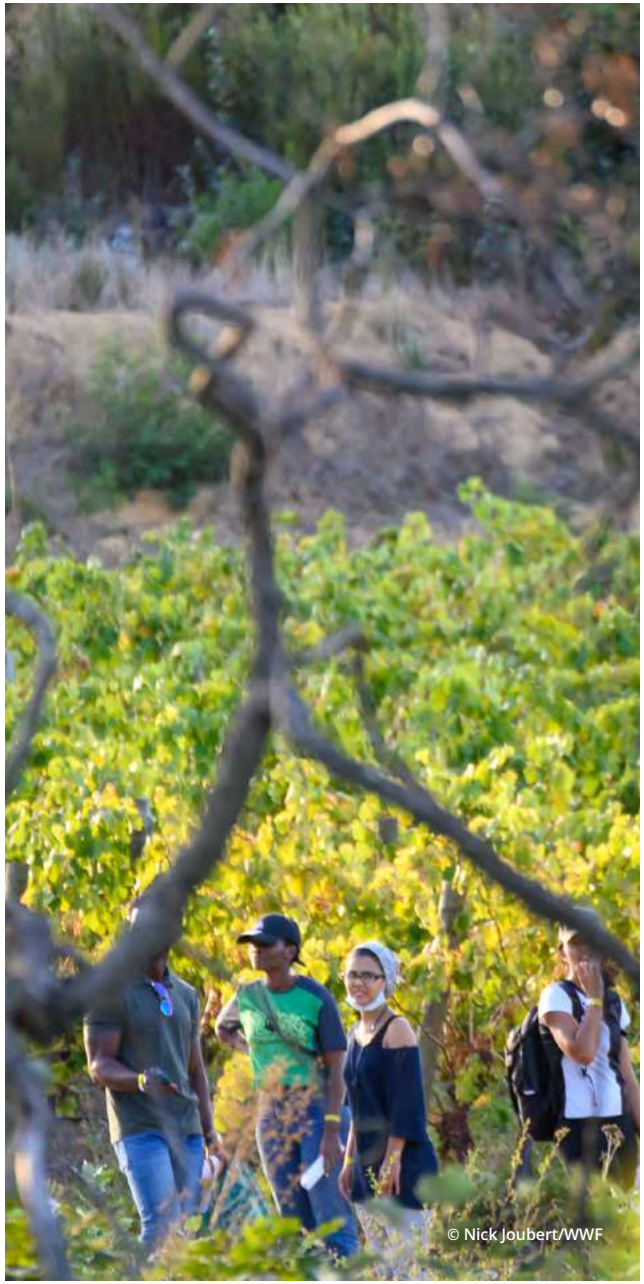



Table 6. Sustainable and resilient supply chain measures in NDCs 3.0 and previous NDCs

| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| ANDORRA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | ✓ |
| ANGOLA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| AUSTRALIA | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| BANGLADESH | Previous NDC | | | ✓ |
| | NDC 3.0 | ✓ | | ✓ |
| BARBADOS | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| BELIZE | Previous NDC | | ✓ | |
| | NDC 3.0 | ✓ | | |
| BOLIVIA | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |

| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| BRAZIL | Previous NDC | | | |
| | NDC 3.0 | | | |
| CAMBODIA | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | |
| CANADA | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | | | |
| CHILE | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | |
| COLOMBIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | |
| CUBA | Previous NDC | | | |
| | NDC 3.0 | ✓ | | ✓ |
| ESWATINI | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | |
| ETHIOPIA | Previous NDC | | | |
| | NDC 3.0 | | | |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| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| ICELAND | Previous NDC | | | |
| | NDC 3.0 | | | ✓ |
| JAMAICA | Previous NDC | | | |
| | NDC 3.0 | | | ✓ |
| JAPAN | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| JORDAN | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| KENYA | Previous NDC | | | |
| | NDC 3.0 | | | |
| KYRGYZSTAN | Previous NDC | | | ✓ |
| | NDC 3.0 | | | |
| LEBANON | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| LIBERIA | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | | | |

| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| MALAYSIA | Previous NDC | | | ✓ |
| | NDC 3.0 | ✓ | | |
| MALDIVES | Previous NDC | | | |
| | NDC 3.0 | ✓ | ✓ | |
| MARSHALL ISLANDS | Previous NDC | | | ✓ |
| | NDC 3.0 | | ✓ | |
| MAURITIUS | Previous NDC | | | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| MICRONESIA | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | ✓ | | |
| MOLDOVA | Previous NDC | ✓ | | |
| | NDC 3.0 | | | ✓ |
| MONACO | Previous NDC | | | |
| | NDC 3.0 | | | |
| MONGOLIA | Previous NDC | | | |
| | NDC 3.0 | | | |


| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| MONTENEGRO | Previous NDC | | | ✓ |
| | NDC 3.0 | ✓ | | |
| MOROCCO | Previous NDC | | | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| NEPAL | Previous NDC | ✓ | | ✓ |
| | NDC 3.0 | | ✓ | ✓ |
| NEW ZEALAND | Previous NDC | | | |
| | NDC 3.0 | | | |
| NICARAGUA | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| NIGERIA | Previous NDC | ✓ | | ✓ |
| | NDC 3.0 | ✓ | ✓ | |
| NORWAY | Previous NDC | | | ✓ |
| | NDC 3.0 | | | ✓ |
| PAKISTAN | Previous NDC | | | ✓ |
| | NDC 3.0 | ✓ | | ✓ |

| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| PANAMA | Previous NDC | ✓ | | ✓ |
| | NDC 3.0 | | | ✓ |
| SAINT LUCIA | Previous NDC | | | |
| | NDC 3.0 | | | |
| SAO TOME AND PRINCIPE | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | ✓ |
| SERBIA | Previous NDC | ✓ | | ✓ |
| | NDC 3.0 | | | ✓ |
| SEYCHELLES | Previous NDC | ✓ | | |
| | NDC 3.0 | | | ✓ |
| SINGAPORE | Previous NDC | | | ✓ |
| | NDC 3.0 | | | |
| SOLOMON ISLANDS | Previous NDC | | | ✓ |
| | NDC 3.0 | | | |
| SOMALIA | Previous NDC | | | |
| | NDC 3.0 | | | |

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| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| SOUTH AFRICA | Previous NDC | | | |
| | NDC 3.0 | | ✓ | |
| SRI LANKA | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | |
| SWITZERLAND | Previous NDC | | | ✓ |
| | NDC 3.0 | | | ✓ |
| TUNISIA | Previous NDC | | | |
| | NDC 3.0 | | | ✓ |
| TUVALU | Previous NDC | | | |
| | NDC 3.0 | | | |
| UNITED ARAB EMIRATES | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | |
| UNITED KINGDOM | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | |
| UNITED STATES | Previous NDC | | | |
| | NDC 3.0 | | ✓ | |

| Party | NDC Version | Circular economy | Food waste or food loss | Organic waste, Agricultural waste, or Compost |
|---|---|---|---|---|
| URUGUAY | Previous NDC | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | |
| VANUATU | Previous NDC | ✓ | ✓ | |
| | NDC 3.0 | ✓ | ✓ | |
| ZIMBABWE | Previous NDC | | | |
| | NDC 3.0 | | | |

Table 7. Examples of supply chain measures in NDCs 3.0

| Addressing food loss and waste | Party | Example measure |
|---|---|---|
| POST-HARVEST STORAGE | **Liberia** | Liberia aims to develop new facilities and climate-smart technologies to promote post-harvest and value addition practices by 2035. Its NDC 3.0 include plans for the establishment of 5 seed and gene banks and improved storage facilities for agricultural products across the country's five agricultural regions by 2028. |
| | **Maldives** | In the context of adaptation, the Maldives includes a range of activities to develop its fish processing sector. These include financial support and training programs for value addition by small-scale processors, particularly women. They also include promoting innovative technologies for fish processing on board and the storage of live bait. |
| CIRCULAR ECONOMY | **Mauritius** | Conditional upon international assistance, Mauritius pledges to promote a circular economy in the agriculture sector in its NDC 3.0. |
| | **Micronesia** | Micronesia plans to develop a circular economy policy with a particular focus on waste reduction and reusing organic waste. |
| | **Eswatini** | Eswatini plans to capture 30% of organic waste for composting to support circularity in waste management systems and climate mitigation. |
| FOOD LOSS AND WASTE PREVENTION / REDUCTION | **Cambodia** | The NDC 3.0 outlines its plans for a baseline study on food loss and waste in urban and rural areas. The research is supposed to inform development of policies and programs to reduce food loss and waste through risk management along the food value chain and reuse and value addition to food waste. |
| | **Sri Lanka** | In the NDC 3.0, Sri Lanka pledges to reduce post-harvest losses for fruits to 12-15% and 15-25% for vegetables by 2035. |
| | **Nepal** | Nepal's NDC 3.0 sets a target to reduce post-harvest food losses to no more than 15% by 2035 through programs targeting smallholder farmers and marginalized communities. |

**Opportunities to reduce food loss and waste:**

Circular and efficient food supply chains help to reduce food loss and waste and support a transition to nature-positive agriculture and food systems. Reducing food loss and waste can positively impact biodiversity by decreasing pressures on natural resources[52] and lowering the environmental footprint of food systems.[53] Reducing food loss and waste can also reduce greenhouse gas emissions, save resources like water and energy, and prevent pollution from the inefficient disposal of food.[54] Examples of measures to reduce food loss and waste include:

- **Improving storage, transportation, and processing measures** – such as investing in cold storage facilities, advanced packaging technologies, and food processing methods – can reduce food loss and waste and contribute to easing the pressure on natural resources.[55]
- **Proper management of municipal solid waste** is crucial to avoid adverse environmental impacts from pollution and biological processes during waste disposal.[56]
- **Circular food supply chains** contribute to regenerating natural areas and ecosystems by reducing exploitation of natural resources, pollution, and waste while promoting agroecological and regenerative farming practices such as using biological, organic alternatives to synthetic fertilizers and pest control.[57]

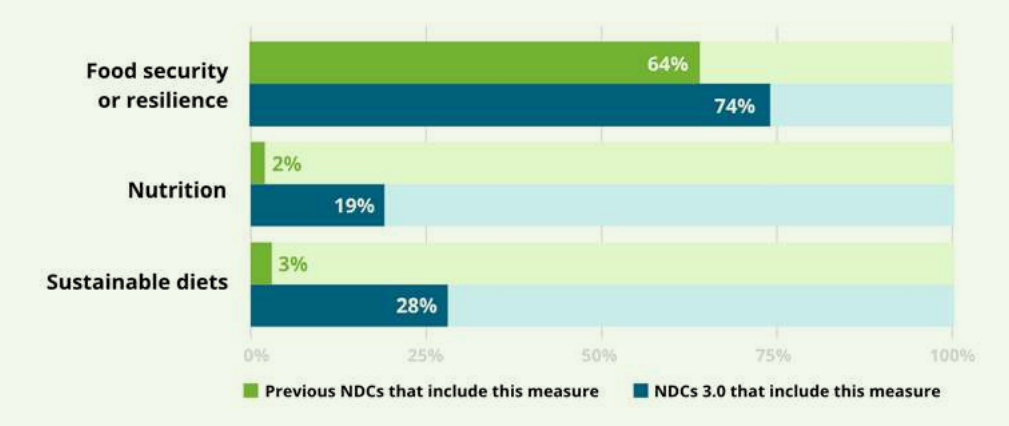
# FOOD CONSUMPTION

A successful transformation of agriculture and food systems for climate and nature relies on a shift toward sustainable consumption and healthy diets produced within planetary boundaries, while respecting local food contexts. This requires that diets are overall protective of ecosystems; culturally acceptable, accessible, economically fair, and affordable; nutritionally adequate, safe, and healthy; and optimally using natural and human resources.[58] This requires that diets are overall protective of ecosystems; culturally acceptable, accessible, economically fair, and affordable; nutritionally adequate, safe, and healthy; and that they optimally use natural and human resources.59 And as climate variability intensifies, building the resilience of agriculture and food systems in order to enhance access to affordable, nutritious food options for all is only becoming more critical.[60]

## Across 58 assessed Parties, only 16 (28%) of NDCs 3.0 include sustainable consumption and diet-related measures. However, this is a significant improvement compared to just two (3%) of the previous NDCs.

Measures to promote shifts toward more sustainable consumption are often tied to plans for making food production more sustainable and resilient. Most NDCs 3.0 that include such measures are from developing countries and focus on building dietary diversity and enhancing access to adequate food and nutrition, with 11 NDCs 3.0 explicitly including nutrition as a targeted outcome of planned activities (see Figure 7). Only two developed countries – the United Kingdom and the United Arab Emirates – include dietary measures. While it is a positive trend that developing countries are increasingly integrating diet and nutrition, developed countries (where unsustainable and healthy diets are key drivers of global environmental degradation and climate change) must also follow suit.[61] This trend is similar to other recent review of NDCs (see Box 3). Table 8 shows which practices for sustainable consumption and healthy diets are included in NDCs 3.0 and previous NDCs. Table 9 illustrates examples of these measures in NDCs 3.0.

**Figure 7. Food consumption measures in NDCs 3.0 compared to previous NDCs. Total: 58 Parties**




**Box 3. Nutrition in climate strategies and plans.**

**The Initiative on climate action and nutrition (I-CAN)** periodically assesses the integration of nutrition in climate and biodiversity strategies and initiatives and the integration of climate in nutrition-related strategies and initiatives. The 2025 assessment report examines this through an analysis of 16 key indicators, including the most recent NDCs of 167 countries.

The 2025 report found that more than **half (56%) of these NDCs** do not include any intentional connectedness between climate and nutrition. Further, 23% include some intention to connect climate and nutrition, 18% show an intention to mobilise resources to connect climate and nutrition, but only 3% make a commitment to mobilising resources and with distinct plans to take action to connect climate and nutrition. This highlights a major gap in how countries integrate policy and action on nutrition in their climate strategies.

This gap is particularly concerning when considering the profound impacts that climate change is already having on the accessibility and affordability of a nutritious diet for millions of people. In 2023, it was reported that an estimated 2.3 billion people, or approximately 29% of the global population, did not have regular access to adequate food.[62] The same report estimated that if current trends continue, over 500 million more people will be undernourished.[63]

**Read: I-CAN (2025). Advancing Synergies Across Nutrition and Climate Action: I-CAN Assessment 2025, Global Alliance for Improved Nutrition (GAIN).**


Table 8. Food consumption measures in NDCs 3.0 and previous NDCs

| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| ANDORRA | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| ANGOLA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| AUSTRALIA | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| BANGLADESH | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | |
| BARBADOS | Previous NDC | | | |
| | NDC 3.0 | | ✓ | |
| BELIZE | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| BOLIVIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| BRAZIL | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |

| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| CAMBODIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| CANADA | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| CHILE | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| COLOMBIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| CUBA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| ESWATINI | Previous NDC | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| ETHIOPIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| ICELAND | Previous NDC | | | |
| | NDC 3.0 | | | |
| JAMAICA | Previous NDC | | | |
| | NDC 3.0 | | | |


| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| JAPAN | Previous NDC | | | |
| | NDC 3.0 | | | |
| JORDAN | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| KENYA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| KYRGYZSTAN | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| LEBANON | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| LIBERIA | Previous NDC | ✓ | ✓ | ✓ |
| | NDC 3.0 | ✓ | | |
| MALAYSIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| MALDIVES | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| MARSHALL ISLANDS | Previous NDC | | | |
| | NDC 3.0 | ✓ | ✓ | |

| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| MAURITIUS | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| MICRONESIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| MOLDOVA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| MONACO | Previous NDC | | | |
| | NDC 3.0 | | | |
| MONGOLIA | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| MONTENEGRO | Previous NDC | | | |
| | NDC 3.0 | | | |
| MOROCCO | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| NEPAL | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| NEW ZEALAND | Previous NDC | | | |
| | NDC 3.0 | | | |


| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| NICARAGUA | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| NIGERIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| NORWAY | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| PAKISTAN | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| PANAMA | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| SAINT LUCIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |
| SAO TOME AND PRINCIPE | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| SERBIA | Previous NDC | | | |
| | NDC 3.0 | | | |
| SEYCHELLES | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |

| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| SINGAPORE | Previous NDC | ✓ | | |
| | NDC 3.0 | | | |
| SOLOMON ISLANDS | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| SOMALIA | Previous NDC | | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| SOUTH AFRICA | Previous NDC | | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| SRI LANKA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | |
| SWITZERLAND | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| TUNISIA | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| TUVALU | Previous NDC | ✓ | | |
| | NDC 3.0 | | ✓ | ✓ |
| UNITED ARAB EMIRATES | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | |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| Country | NDC version | Food security or food resilience | Diets | Nutrition |
|---|---|---|---|---|
| UNITED KINGDOM | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| UNITED STATES | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| URUGUAY | Previous NDC | | | |
| | NDC 3.0 | ✓ | | |
| VANUATU | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | ✓ | ✓ |
| ZIMBABWE | Previous NDC | ✓ | | |
| | NDC 3.0 | ✓ | | |

Table 9. Food consumption and healthy diets related measures in NDCs 3.0

| Food consumption measure | Party | Example measure |
|---|---|---|
| PROMOTING SUSTAINABLE DIETS | **Bolivia** | NDC 3.0 aims to achieve more diversified and balanced diets through diversified and sustainable crop and fruit production that also restores ecosystems and strengthens producers' livelihoods. |
| | **Marshall Islands** | The island country aims to ensure healthier diets and a long-term decrease in the incidence of non-communicable diseases through increasing local food production. In addition to delivering health benefits, growing more food locally should reduce the country's reliance on imported foods, strengthen local livelihoods, and mitigate emissions associated with food consumption. |
| | **Vanuatu** | The NDC 3.0 seeks to improve the availability and affordability of diverse, healthy, and sustainable foods that are produced locally using traditional practices. |
| | **The United Kingdom** | The food strategy integrated in the NDC 3.0 aims to provide more easily accessible healthy food to tackle obesity; helping to give children the best start in life and help adults live longer healthier lives. |
| ENSURING ACCESS TO ADEQUATE NUTRITION | **Colombia** | The NDC 3.0 aims to achieve climate resilience in food and agricultural production, supply, and distribution, and increase sustainable and regenerative production and equitable access to adequate food and nutrition for all. |
| | **Kenya** | Under the agriculture and livestock adaptation sector, NDC 3.0 has a goal to 'increase sustainable access of adequate nutritional food for all.' |
| ENHANCING FOOD SECURITY | **Eswatini** | NDC 3.0 aims to enhance resilience of the agricultural sector to climate risks through adoption of climate-smart practices, thereby increasing its contribution to food security and sustainable income generation, particularly for women, youth, persons with disabilities, and any marginalized producers. |
| | **Barbados** | The NDC 3.0 underscores climate change impacts on food security by affecting all four pillars: availability, accessibility, utilisation and stability. Agriculture and Climate Change Policy included in the NDC provides a roadmap for building a more resilient agricultural sector in Barbados by integrating climate resilience, mitigation, and adaptation into the broader framework of sustainable agriculture, emphasizing food security, environmental protection, and economic stability and aims to mitigate climate impacts while ensuring food security and supporting rural livelihoods. |

**Opportunities to transition to sustainable consumption and healthy diets:**

Sustainable food consumption measures should promote all dimensions of individuals' health and well-being; have low environmental pressure and impact; be accessible, affordable, safe, and equitable; and be culturally acceptable.[64] Examples of measures to shift to sustainable consumption and healthy diets include:

- Setting nature-positive dietary guidelines, designing incentives like subsidies and disincentives through taxation, and regulating food retail and services sectors can advance a transition to healthy and sustainable diets,[65] though the choice of policies will depend on national and local contexts.
- Sustainable food procurement can help prioritize organic and plant-based foods and supporting local and small-scale producers. It can also reduce the ecological footprint associated with the food being purchased for and consumed in organizations such as schools, hospitals, or companies.[66]
- Effective marketing of sustainable choices can help consumers make informed decisions about the nutritional value, origins, and sustainability impacts of their food.[67] This can drive consumer demand for healthier, environmentally friendly options while reducing demand for unhealthy, unsustainable foods.

- On the flip side, regulations to limit the marketing and promotion of foods linked to negative environmental impacts can help enable sustainable food choices. Examples include regulations that have been effective in reducing advertisement of unhealthy food.[68]

- Sustainable certifications can positively impact biodiversity by promoting farming practices that limit agrochemical use and encourage biodiversity conservation.[69]

- Improving urban food systems through local production and markets to support sustainable development, human well-being, and climate action by fostering access to local food, shortening supply chains, and encouraging sustainable resource management.[70] Urban agricultural systems also support a wide range of ecological services, such as enhancing biodiversity and improving air and water quality.[71]

# EQUITY CONSIDERATIONS IN FOOD SYSTEMS MEASURES

Food systems measures need to be inclusive and collaborative, where all stakeholders are involved in designing and implementing relevant interventions. This can encourage a more holistic understanding of agriculture – not only as a system for producing food, but also for promoting healthy soil, biodiversity, clean water, landscape management, and livelihoods. Particularly, marginalised groups like Indigenous Peoples, local communities, women, youth, and small-scale farmers who are at the forefront of food systems transformation play a critical role in climate efforts in developing countries. The inclusion of smallholders and their organisations in the creation and implementation of climate strategies is key to ensuring they reflect the real-world challenges facing the food and agriculture sector, and the solutions for building resilience.[72]

## 41 (71%) NDCs 3.0 explicitly mention Indigenous peoples and/or local communities compared to 26 (45%) of the same Parties' previous NDCs.

While this is a positive trend overall, there is still room for improvement, both in terms of the number of NDCs 3.0 that explicitly mention Indigenous peoples and local communities at all, as well as the degree to which NDCs specifically recognize the crucial role these groups play in facilitating a sustainable transformation of agriculture and food systems. While most NDCs 3.0 mention Indigenous peoples and local communities (Figure 8), many do not include concrete measures to recognize the role of Indigenous peoples and local communities in food systems transformation. Table 10 indicates which NDCs 3.0 and previous NDCs include smallholders and Indigenous peoples and local communities. Table 11 illustrates examples of specific measures in NDCs 3.0.

**Figure 8. Equity considerations for food system measures in NDCs. Total: 58 Parties**

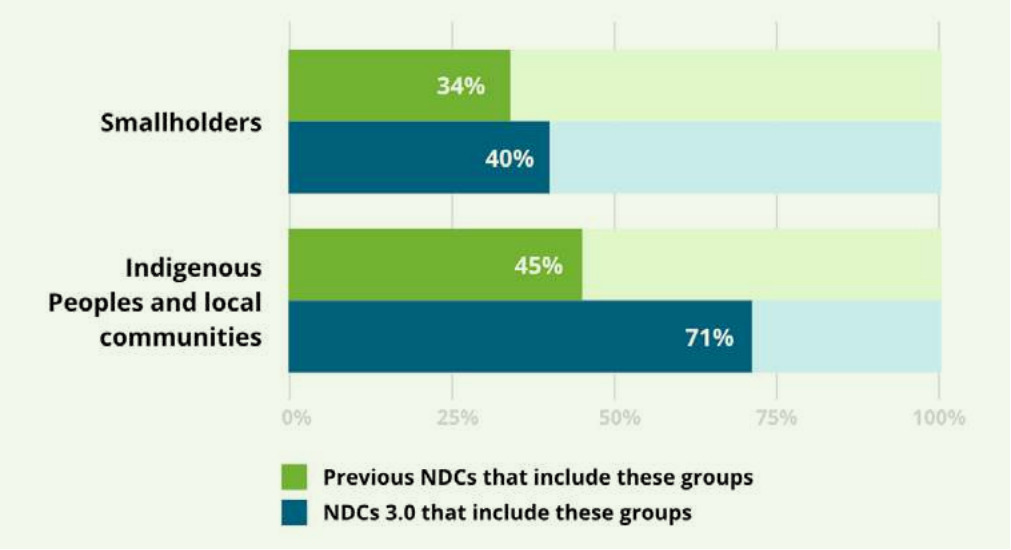

Table 10. Equity considerations in NDCs 3.0 and the previous NDCs.

| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| ANDORRA | Previous NDC | | |
| | NDC 3.0 | | |
| ANGOLA | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| AUSTRALIA | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| BANGLADESH | Previous NDC | | |
| | NDC 3.0 | ✓ | ✓ |
| BARBADOS | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| BELIZE | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | |
| BOLIVIA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |


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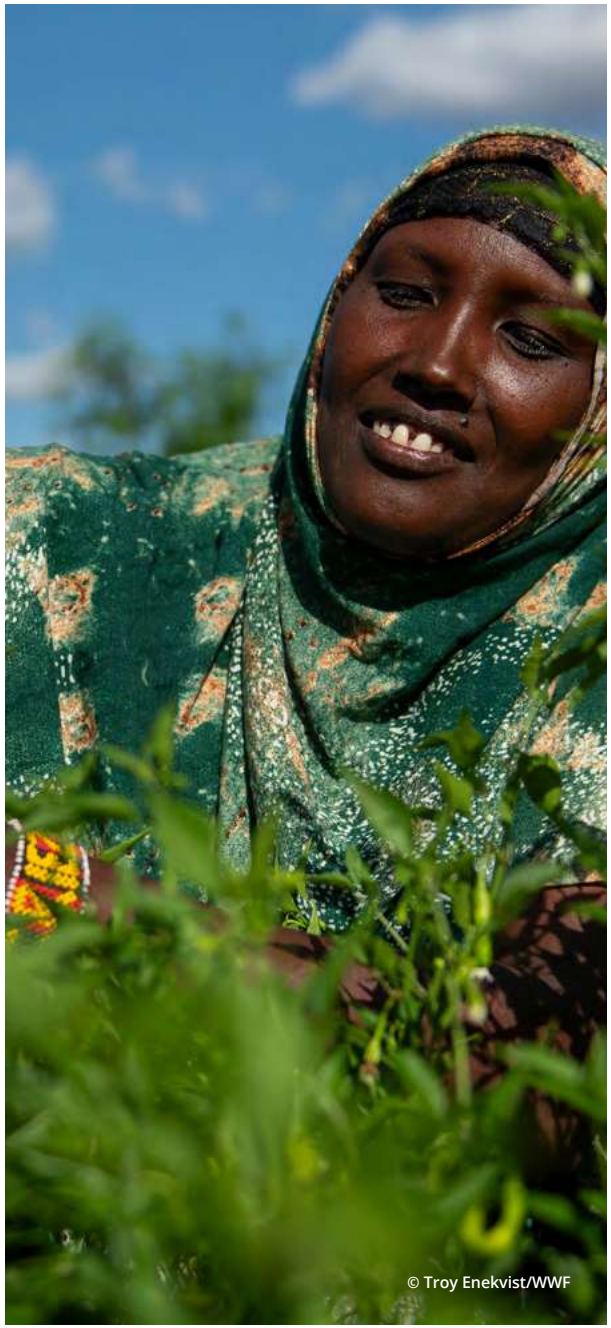
| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| BRAZIL | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| CAMBODIA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| CANADA | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| CHILE | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| COLOMBIA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| CUBA | Previous NDC | | |
| | NDC 3.0 | | |
| ESWATINI | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | | ✓ |
| ETHIOPIA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |

| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| ICELAND | Previous NDC | | |
| | NDC 3.0 | | |
| JAMAICA | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| JAPAN | Previous NDC | | |
| | NDC 3.0 | | |
| JORDAN | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| KENYA | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | ✓ |
| KYRGYZSTAN | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| LEBANON | Previous NDC | | |
| | NDC 3.0 | ✓ | ✓ |
| LIBERIA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |




| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| MALAYSIA | Previous NDC | | |
| | NDC 3.0 | | |
| MALDIVES | Previous NDC | | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| MARSHALL ISLANDS | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| MAURITIUS | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | | |
| MICRONESIA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | |
| MOLDOVA | Previous NDC | | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| MONACO | Previous NDC | | |
| | NDC 3.0 | | |
| MONGOLIA | Previous NDC | | |
| | NDC 3.0 | ✓ | |

| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| MONTENEGRO | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| MOROCCO | Previous NDC | | |
| | NDC 3.0 | | |
| NEPAL | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| NEW ZEALAND | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| NICARAGUA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| NIGERIA | Previous NDC | | |
| | NDC 3.0 | ✓ | ✓ |
| NORWAY | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| PAKISTAN | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | ✓ |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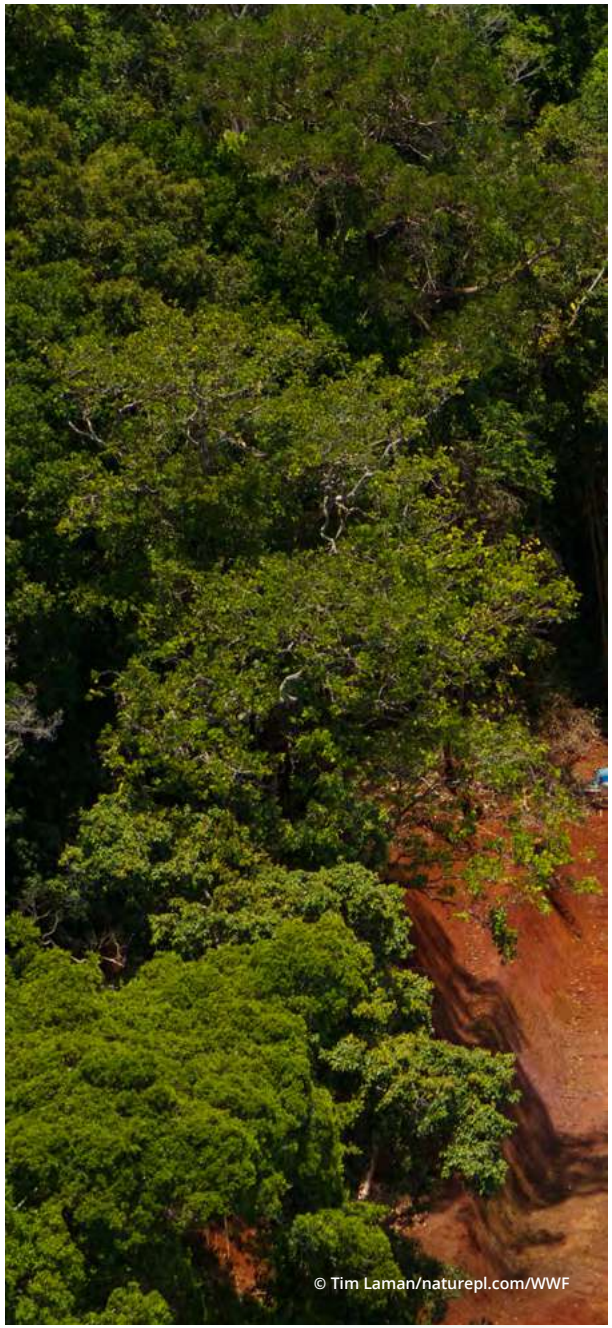


| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| PANAMA | Previous NDC | ✓ | |
| | NDC 3.0 | ✓ | |
| SAINT LUCIA | Previous NDC | | |
| | NDC 3.0 | | |
| SAO TOME AND PRINCIPE | Previous NDC | | |
| | NDC 3.0 | ✓ | ✓ |
| SERBIA | Previous NDC | | |
| | NDC 3.0 | | |
| SEYCHELLES | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | |
| SINGAPORE | Previous NDC | | |
| | NDC 3.0 | | |
| SOLOMON ISLANDS | Previous NDC | | |
| | NDC 3.0 | | |
| SOMALIA | Previous NDC | | ✓ |
| | NDC 3.0 | ✓ | ✓ |

| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| SOUTH AFRICA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| SRI LANKA | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| SWITZERLAND | Previous NDC | | |
| | NDC 3.0 | | |
| TUNISIA | Previous NDC | | |
| | NDC 3.0 | | ✓ |
| TUVALU | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| UNITED ARAB EMIRATES | Previous NDC | | |
| | NDC 3.0 | ✓ | |
| UNITED KINGDOM | Previous NDC | | ✓ |
| | NDC 3.0 | ✓ | |
| UNITED STATES | Previous NDC | | |
| | NDC 3.0 | | |


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| Country | NDC version | Mention of Indigenous peoples and local communities (any) | Mention of smallholder farmers/ family farmers |
|---|---|---|---|
| URUGUAY | Previous NDC | | |
| | NDC 3.0 | | ✓ |
| VANUATU | Previous NDC | ✓ | ✓ |
| | NDC 3.0 | ✓ | ✓ |
| ZIMBABWE | Previous NDC | | ✓ |
| | NDC 3.0 | ✓ | ✓ |

Table 11. Examples of inclusion of Indigenous Peoples and Local Communities in NDCs 3.0

| Measure | Party | NDC 3.0 example |
|---|---|---|
| SMALLHOLDER FARMERS | **Eswatini** | Eswatini, in its NDC 3.0, formulates the ambition that implementation of planned adaptation measures in the agriculture sector will enhance the resilience of the sector, ultimately strengthening livelihoods, income generation, and food security, especially for women, youth, people with disabilities, and any marginalized producers. |
| | **Kenya** | The NDC 3.0 seeks to empower smallholder farmers and pastoralists through capacity-building activities that focus on climate-smart crop and livestock production. |
| | **Zimbabwe** | The NDC 3.0 plans to reduce emissions from livestock by supporting smallholders and agropastoral farmers with productivity improvements. |
| INDIGENOUS PEOPLES | **Nepal** | Nepal, in its NDC 3.0, reaffirms its commitment to bring at least 60% of forests under community-based management by 2035, and to have 50% of women and proportional representation of Dalits and Indigenous People on the management committees. Nepal also aims to ensure that women, Indigenous People, and local communities receive a fair and equitable share of benefits from sustainable forest and watershed management as well as biodiversity conservation. |
| | **Brazil** | The NDC 3.0 states that Brazil will promote "climate justice", understood as an approach to addressing social, racial and gender inequalities, among others, while advancing human rights, and in particular the rights of indigenous and traditional populations, in the face of climate change, with special attention to vulnerable groups. |

**Opportunity to strengthen inclusive food governance:**

Sustainable food systems must be inclusive and collaborative, where all stakeholders particularly marginalised groups like Indigenous Peoples, local communities including farmers, women, and youth are involved in designing and implementing relevant interventions.

This equitable and collaborative approach requires:[73]

- **Identifying food system advocates** will allow policy makers to estimate the level of buy-in from governments at different levels of food systems (international, national, and sub-national). Engaging advocates helps to advance awareness-raising activities and training on the food systems approach.

- **Defining and introducing good governance principles** – including for inclusiveness, transparency, and accountability – in engaging stakeholders to enable dialogue and collaboration across agendas and at multiple levels and priority areas, and to connect different interventions for addressing food system issues.

- **Assessing and strengthening institutional capacity** and governance at the national level. This can help share knowledge and lessons learned in policy planning, implementation, and governance, and the effectiveness and coherence of these interventions.

- **Collaborating with other countries** that seek to reduce emissions from food value chains and minimise the use of the most emission intensive products. Given the globalized nature of food systems, emission reductions from food systems requires close cooperation and trust between countries.[74]

# DEEP-DIVE EXAMPLES

## South Africa 

### Context:

Agriculture has been identified by the South African government as an important sector for both job creation and for addressing pervasive inequities in the country.[75] However, climate change poses severe threats to this vital sector. Some estimates suggest that grain yields could decrease by as much as 28%, with 62% to 80% of farms vulnerable to climate-related losses.[76] These climate challenges are compounded by deep structural inequalities within South Africa's food system.[77] The industry is marked by significant market concentration which exists within a dualistic agrarian structure: large-scale commercial farms operate alongside smallholder farms in a divide that reflects the country's history of racial and gender oppression, land dispossession, and economic exclusion.[78] Small farms and farmers, most of whom are land-dispossessed Black South Africans, remain largely excluded and marginalized.[79]

### Relevant targets and measures:

South Africa's NDC 3.0 explicitly acknowledges the role that agri-food systems play in driving climate change and its impacts – including shortened growing seasons and increased water stress, with particularly high risk to female-headed households in agricultural districts. The NDC highlights that agriculture and fisheries are central to the country's adaptation vision, with its adaptation-focused 'Goal 4' aiming to "enhance nutritious food access and affordability through support to agricultural and fisheries producers and distributors in adapting to warmer and windier conditions and changes in rainfall." Notably, South Africa increased the number of agri-food system related measures in its NDC 3.0 compared to the country's previous submission.

**At the production level,** the production-related policy measures highlighted in South Africa's NDC include providing support to develop, adopt, and market drought-resistant crop varieties and heat-tolerant livestock and aquaculture species; improve irrigation efficiency; training and accreditation of sustainable land management and sustainable fishing and aquaculture practices; and providing support with shade-netting infrastructure.

**In supply chains,** South Africa's NDC explicitly notes that "food loss and waste are significant issues, given their environmental and food security implications." Additionally, the country plans to upgrade critical transport infrastructure – including roads, rail, and ports – to maintain functionality under increased rainfall intensity, heat stress, wind speeds, and storm surges. Though these measures do not reference food systems explicitly, these advances would still support food distribution systems regardless of if they are designed to that end.

**At the consumption level,** South Africa's NDC notes the goal of enhancing "nutritious food access and affordability," which the NDC proposes to track through indicators such as the increase in annual average cost of basic food baskets. The strategy also recognizes that climate vulnerability is higher for households that – among other conditions – "do not have adequate access to food to meet their daily nutritional requirements."

**Governance and equity:** The NDC links food security with equity, noting that vulnerability is highest among "female-headed households in agricultural districts" and those without adequate access to nutritious food. The NDC also includes measures aimed at enhancing market access for small-scale producers to enhance nutritious food access and affordability.

# Pakistan

## Context:

Agriculture forms the backbone of Pakistan's economy, accounting for 18.9% of GDP and employing 42.3% of the labor force.[80] With about 25% of the country's total land area under cultivation, Pakistan ranks as the world's 7th largest producer of wheat, 10th largest producer of rice, and 5th largest producer of both cotton and sugarcane.[81] Nearly all of this productive capacity is concentrated in the Indus Plain, which holds 96% of Pakistan's arable land.[82] However, this agricultural system faces mounting vulnerabilities. Sixty percent of Pakistan's population depends directly or indirectly on rain-fed agriculture,[83] making them acutely vulnerable to unpredictable weather patterns. Climate pressures are compounded by systemic structural challenges that have left agricultural production stagnant including heavy reliance on a few major crops, poor seed quality, and a lack of cold chain facilities.[84]

## Relevant targets and measures:

Per the country's NDC 3.0, Pakistan has prioritized agriculture as "the key sector for adaptation" given the sector's high vulnerability to climate change and its "critical linkages to national food security." As described in the NDC, Pakistan was ranked as the most climate-affected country in the world in 2022 and faces escalating risks from glacial melt, floods, droughts, and sea-level rise that directly threaten the country's food systems and rural livelihoods. With a rapidly growing population projected to reach 255 million by 2025, Pakistan in its NDC positions climate action as a matter of "national survival."

**At the food production level**, Pakistan's NDC includes targeted interventions offering both adaptation and mitigation co-benefits, such as adoption of Alternate Wetting and Drying (AWD) in rice cultivation, application of slow-release fertilizers, enhanced manure management via composting and bio-digesters, and discouraging crop residue burning. Pakistan commits to regenerative agriculture practices to restore soil health and biodiversity by enhancing ecosystem resilience, improving water retention, and capturing carbon while sustaining farm productivity. The country will also promote climate-resilient crop varieties, including drought- and heat-tolerant seeds. Further, Pakistan reporting having successfully planted 6.3 million olive trees on marginalized and arid lands, to support climate-resilient agriculture by preventing soil erosion and enhancing carbon sequestration.

**In food supply chains**, Pakistan plans to "strengthen food storage and distribution systems" to cushion climate shocks. The NDC targets a 17% emission reduction from the waste sector (overall) through integrated solid waste management measures, including the composting of organic waste, semi-aerobic landfilling, segregation, recycling, landfill gas capture, upgraded treatment facilities, and deployment of advanced methane capture and utilization systems.

**At the consumption level**, food security is a consistent theme throughout Pakistan's NDC 3.0, positioned at the intersection of climate resilience, sustainable development, and human well-being, emphasizing that addressing climate change is "not only about protecting the environment but also about ensuring food security, safeguarding water resources, preserving glaciers, reducing poverty, and creating opportunities for green growth." Additionally, the NDC 3.0 notes that Pakistan's long-term development vision – Vision 2025 and its successor URAAN Pakistan (2024–29) – include "energy-water-food security" as one of seven core pillars of the roadmap.

**In strengthening governance** and equity in food systems, Pakistan's NDC acknowledges that "women and children often bear a disproportionate burden during climate-induced displacement and periods of food insecurity." As for the development of the NDC itself, it was prepared through a participatory process involving 30 consultative sessions and workshops at federal and provincial levels, with coordination by the Ministry of Climate Change & Environmental Coordination and technical inputs from line ministries and provincial governments. The process integrated the Climate Change Gender Action Plan (ccGAP) to mainstream gender responsiveness and engaged youth, local communities, and marginalized groups, thereby strengthening ownership and equity in climate action.

# Cambodia 

## Context:

In Cambodia, agriculture – which supports the livelihoods of a substantial portion of Cambodia's population – faces compounding pressures that threaten both food security and economic stability. Cambodia's population relies heavily on agriculture and fisheries, sectors that account for 49% of the population labor force.[85] Crop production in Cambodia makes up 60% of agriculture's contribution to GDP, with major crops including rice, rubber, mango, cashew nuts, pepper, and cassava.[86] Despite economic gains in the past two decades, 22% of Cambodia's population still cannot afford a healthy diet, and malnutrition rates remain alarmingly high among children under five.[87] These challenges are not evenly distributed – poverty and malnutrition rates vary drastically by province, with the highest figures concentrated in hilly border regions.[88] Further, Cambodia is extremely vulnerable to floods, droughts, and other climate-related shocks that disrupt agricultural production and deepen existing inequalities.[89]

## Relevant targets and measures:

Cambodia's NDC 3.0 saw an increase in the number of agri-food system related measures compared to the country's previous submission. The NDC 3.0 includes 12 concrete adaptation measures to address climate change impacts on agriculture and food systems, and highlights that the country's most recent climate strategy "expands the scope of adaptation sectors [to now include] food systems [...] as a priority area", reflecting a growing recognition of agriculture's central role in climate resilience. While the NDC does not present an explicit emission mitigation target for agriculture, the country aims to reduce FOLU sector emissions by 30% or 148% by 2035, in unconditional and conditional scenarios, respectively.

Overall, the NDC 3.0 promotes healthier, more sustainable diets by improving access to nutritious food, regulating unhealthy products, and linking nutrition with social protection programs. It also aims to reduce food loss and waste through research, policy development, and pilot projects that encourage reuse and value addition across the food chain. By positioning food systems as a new adaptation and mitigation frontier, Cambodia's NDC 3.0 underscores the sector's importance to climate resilience, rural livelihoods, and sustainable national development.

# Cambodia 

**At the food production level**, Cambodia's NDC highlights several key mitigation strategies which include efforts to promote climate-smart agricultural practices such as agro-forestry, Alternate Wetting and Drying (AWD), improved water management, and reduced chemical inputs and residue burning, including following clear mitigation measures:

1. **Increase the adoption of management and intermittent flooding in rice fields:** By 2035, the NDC aims to reduce chemical fertilizer use by 15% across 2 million hectares of rice, expand biochar and organic alternatives, and apply water-saving practices like intermittent flooding on 90,000 hectares.
2. **Increase Mechanized Direct SeededRice (mDSR):** By 2035, 100.000 ha of rice cultivation area under mDSR.
3. **Enhance rice straw management practices:** By 2035: 1) 75% of rice production areas is collected for alternative uses; 2) 25% of the area, rice is incorporated into soils. 3). At least 20% of smallholders adopted compost making after training per year.
4. **Increase adoption of integrated and site-specific nutrient management:** By 2035, 40% of annual cropland (equivalent to 756,985 ha) adopted integrated and site-specific nutrient management.
5. **Introduce agroecological practices, land productivities including reducing tillage and sustainable agriculture (such as mulching, cover cropping, crop rotations, alternative crops):** By 2035, at least 16000 ha of the agriculture production applied the agroecological practices, Conservation Agriculture, Climate Smart Practices, and 30 % of women farmers trained in agroecological practices, reduced tillage, improved soil structure, enhanced soil moisture retention, and reduced erosion.
6. **Improve fodder and feeding for livestock production:** By 2035, 5% of the household other cattle is receiving better feeding practices, or about 201 391 heads and 30% of women livestock farmers trained on the adoption of feed additives in cattle production systems.
7. **Improve Good Agricultural Practices (GAP) and Sustainable Natural Rubber (SNR):** By 2023, 50,000 ha increased of harvested areas of SNR and GAP (Nutrient management and rubber wood).
8. **Introduce agroforestry practices on rubber-high value timber for smallholders:** By 2035, 2000 ha agroforestry practices on rubber-high value timber for smallholders.
9. **Reduce deforestation through REDD+ Mechanism and other measures:** 50% reduction of deforestation rate by 2030 and stop by 2045. 60% reduction by 2035 (Conditional) and 15% reduction of deforestation rate by 2030 and 40% by 2050 (Unconditional).
10. **Introduce and promote agroforestry:** Conditional: 1) 50,000 ha by 2025, and 160,000 ha of agricultural land by 2050; 3) 18000 agroforestry practices by 2035; 2) 2000 ha of rubber plantation piloted agroforestry practices by 2035; and Unconditional NDC: 5,000ha of agriculture land by 2050.

# Cambodia 

The NDC also commits to developing climate-resilient crop varieties well suited to market demand, supported by certified seed production, community-based seed banks, and mechanisms for seed distribution, quality assurance, and public-private partnerships in seed delivery. For livestock, the country aims to improve fodder and feeding practices and enhance research and development of climate-resilient livestock breeds. Good Aquaculture Practices (GAqP) are also referenced in Cambodia's NDC, as are measures for climate-smart aquaculture and rice-field aquatic biodiversity resilience.

**In supply chains**, Cambodia aims to increase climate-resilient processing, storage, and logistics for its agri-food system by investing in climate-resilient infrastructure. This includes promoting energy-efficient and low-emission technologies for food processing, establishing climate-proof storage facilities to reduce post-harvest losses, and strengthening supply chain logistics to ensure uninterrupted flow of goods during climate shocks and extreme weather events. The NDC specifically targets reducing food loss and waste through research, policy development, and pilot projects that encourage reuse and value addition across the food chain, setting three adaptation measures for respective ministries:

1. Baseline study on food waste in urban and rural situations.
2. Policy and programme development for food waste reduction, reuse and value adding.
3. Research and development of cooperative actions and information to reduce food loss and food waste, to manage potential risks along the food chain and support pilot projects to reuse and add value to food waste.

The NDC also supports the adoption of Sustainable Natural Rubber standards, "emphasizing traceability, deforestation-free supply chains, respect for labor rights, and resilience to climate change."

# Cambodia 

**At the consumption level**, the NDC promotes a shift towards more nutritious, healthier and more sustainable diets by improving access to nutritious food, regulating unhealthy products, and linking nutrition with social protection programs, including the following eight measures:

1. Increasing physical and economic access to the foods required for healthy and sustainable diets.
2. Strengthening linkages between social protection (particularly home-grown school feeding) to improve equity in access to sustainable and healthy diets.
3. SBC for sustainable and healthy diets
4. Regulation of unhealthy and ultra-processed foods and beverages.
5. Expand use of fortified rice across social protection programs, food reserves, and institutional markets.
6. Strengthened food reserve system.
7. Strengthened food system governance at national and sub-national levels, including food safety and quality.
8. Supporting action from Agriculture: Promotion of domestic fruit and vegetable production.

**Regarding governance and equity in food systems**, the NDC also emphasizes inclusivity, with 30% of women farmers targeted for training in climate-smart techniques. Access to microfinance or grants for smallholder farmers to invest in AWD-enabling tools will be facilitated. Additionally, Cambodia commits to strengthening the conservation and development of traditional knowledge by Indigenous Peoples and local communities most affected by climate change, including their language, cultural practices, subsistence farming, and landscape protection approaches to support biodiversity conservation, ecosystem resilience, and sustainable livelihoods.

# Kenya 

## Context:

Kenya is home to several distinct agroecological zones, from fertile highlands to semi-arid lowlands. Agriculture contributed 21.8% of the country's GDP in 2023,[90] yet nearly 70% of the population experienced severe or moderate food insecurity in 2020.[91] Despite its agricultural capacity, Kenya has become increasingly dependent on food imports, with its cereal import dependency ratio rising from 23.9% in 2000-2002 to 43.1% in 2019-2021.[92] Maize is the most widely produced staple crop in Kenya.[93] Kenya's agriculture is largely dependent on rain, meaning performance of rainfall has a major impact on crop production[94] – and therefore the sector remains vulnerable to changing rainfall patterns due to climate change.

## Relevant targets and measures:

Kenya's NDC 3.0 highlights the central role of agriculture in national climate resilience and emphasizes that climate action must "safeguard the citizens' basic rights to food" while building resilience for vulnerable groups, smallholder farmers, and pastoralist communities. It also notes that the AFOLU sector accounts for 73% of the country's total greenhouse gas emissions, with 36.102 MtCO2eq coming from agriculture alone (32% of total emissions). Kenya's AFOLU emissions have been rising steadily since 1990, driven by increasing demand for agricultural land, deforestation that exceeds reforestation rates, use of synthetic fertilizers, and growing livestock numbers, as described in its NDC. As Kenya pursues its Vision 2030 development agenda, total emissions are projected to reach 143 MtCO2eq by 2030. In terms of progress integrating agri-food systems measures, Kenya increased the number of agri-food system related measures in its NDC 3.0 compared to the country's previous submission.

**At the production level,** Kenya commits to promoting climate-smart agriculture (CSA) with emphasis on crop and animal husbandry, including efficient livestock management system. The NDC aims to implement climate-smart agricultural practices for increased productivity through a value chain approach supporting the transformation of crops, livestock, and fisheries sectors. Specific measures include effective irrigation systems, sustainable land management, promotion of drought-tolerant crops, sustainable livestock production, and agroforestry.

**In building sustainable food supply chains,** Kenya›s NDC states that the country aims to implementing climate-smart agricultural practices "through [a] value chain approach", including strengthening "communication systems on agricultural extension and agro-weather services while "tapping essential local traditional and indigenous knowledge" which can help build resilience and adaptation readiness to address food loss and waste.

**In enhancing food security,** Kenya prioritizes food security as a fundamental right, ensuring that climate change responses safeguard this basic entitlement through an all-of-society approach. The NDC notes the target of "increasing sustainable access to adequate nutritional food for all".

**Regarding governance and equity,** the NDC states that its approach to tackling climate change and its impacts involves engagement of both state and non-state actors, including civil society organizations, private sector, academia, media, development partners and citizens. Additionally, the NDC also commits to empowering "smallholder farmers and pastoralists through enhancement of their capacities," while elsewhere acknowledging that the country's agricultural sector "relies on the vulnerable groups with 80% of the country's agricultural output produced by smallholder farmers."

# Colombia

## Context:

In Colombia, agriculture and food systems play a significant role in the economy, yet the sector faces multiple stressors, including prolonged armed conflict, climate change, and profound land inequality.[95] Permanent rangeland is the second main land use (after "natural forest") in Colombia, accounting for around 39.5 million hectares or 35.6% of Colombia's total land area.[96] Cropland is the next most common land use in Colombia, totaling 8.7 million hectares.[97] Colombia's arable land area almost tripled between 2010 and 2023, potentially linked to the government's efforts to promote the expansion of crops such as cocoa, beans, cassava and rice, as a means to reduce deforestation linked to conflicts over coca production.[98]

## Relevant targets and measures:

Colombia's NDC 3.0 sets an ambitious goal to achieve climate resilience in food and agricultural production, supply, and distribution, while increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all. This comprehensive approach recognizes that transforming food systems is central to both climate mitigation and ensuring food security for the nation's diverse population. Additionally, Colombia's NDC 3.0 includes a greater number of agri-food system related measures compared to the country's previous submission.

**At the production level,** Colombia's NDC aims to "increase sustainable and regenerative production," including by interventions such as commercial forest plantations on degraded soils (1 million hectares by 2035), cocoa under agroforestry systems (190,000 hectares by 2035), and the AMTEC 2.0 model for rice cultivation (369,000 hectares by 2030). These measures promote sustainable and regenerative production practices that restore ecosystems while maintaining agricultural productivity.

**In building supply chains resilience,** the NDC aims to "achieve climate resilience in food and agricultural production, supply, and distribution" and prioritizes reducing food loss and waste, strengthening recovery and redistribution within the framework of national policy on the issue. Under the Circular Economy pillar of their plan, Colombia seeks to increase efficiency in production and consumption of goods and services by promoting the closing of material cycles, technological innovation, and new business models that reduce emissions. This includes implementing urban district heating and cooling systems (at least 8 by 2030, 12 by 2035, and 15 by 2040) and reducing the use of ozone-depleting substances with high global warming potential through technological advancements in domestic refrigeration and air conditioning.

**To enhance food security and diets,** Colombia's NDC specifically states that it aims to ensure "equitable access to adequate food and nutrition for all." It includes measures such as implementing the Post-Disaster Environmental Damage and Needs Assessment (EDANA), which includes the assessment of damages to food security.

**In strengthening governance and equity, t**he NDC 3.0 reaffirms and advances the full and effective inclusion of women in all their diversity – rural, Afro-Colombian, Indigenous, peasant, Raizal, Palenquera, and fishing women – as well as people with diverse sexual orientations, gender expressions, and identities, in decision-making processes related to climate change and biodiversity. It seeks to strengthen equal access to resources, opportunities, and benefits derived from climate action, ensuring that food system transformations are equitable and inclusive.

# Brazil 

## Context:

In Brazil, agriculture is a cornerstone of the economy and a huge player within global trade. The country is the world's largest net agri-food exporter in the world and a leading producer of sugar, coffee, soybeans, beef, and other commodities.[99] The sector employs millions of farmers, the vast majority of which are family farmers.[100] The expansion of agricultural commodity production is a predominant driver of deforestation in Brazil. Between 2001 and 2015, Brazil accounted for nearly half of global forest loss to cattle pasture (21.8 Mha) and over 60% of soy-related deforestation in South America, concentrated mainly in Mato Grosso, the Amazon, and the Cerrado.[101]

## Relevant targets and measures:

Brazil recognizes its critical role in food production and food security worldwide, positioning its NDC 3.0 to demonstrate that it is possible to sustainably expand agricultural production while guaranteeing both food security and energy security through sustainable biofuel production. The country's approach promotes sustainable and resilient production and regular access to adequate, high-quality, healthy food for all.

**At the production level,** Brazil will encourage the widespread adoption of sustainable agricultural and livestock production models with low greenhouse gas emissions. The country plans to, for example, convert new areas primarily from degraded pastures while expanding crops in integrated systems (e.g., crop-livestock and crop-livestock-forest integration). Brazil will also implement various policies – such as the Plan for Adaptation to Climate Change and Low Carbon Emissions in Agriculture (ABC+ Plan), the National Program for Strengthening Family Farming (Pronaf), the Bioeconomy Brazil Socio-biodiversity Program, the National Bio-inputs Program, and the National Program for the Conversion of Degraded Pastures into Sustainable Agricultural and Forestry Production Systems (PNCPD) – to this end. The Technology Needs Assessment for the Implementation of Climate Action Plans in Brazil (TNA-BRAZIL) has identified priority sectors and key technologies for meeting the NDC target, including precision agriculture; animal genetic improvement in beef cattle breeding; forestry and genetic improvement of native species; forestry with mixed plantations for restoration.

**In supply chains,** Brazil's NDC states that it will "promote technological densification of supply chains, as well as to expand and modernize the national production structure." The TNA-BRAZIL has also identified priority sectors and key technologies for meeting the NDC target, including the "use of agricultural and agro-industrial waste."

**In strengthening food security and access to healthy food,** Brazil›s national adaptation objectives explicitly include promoting regular access to healthy food of adequate quality and quantity. The TNA-BRAZIL has also identified the use photovoltaic solar stoves with induction (presumably on the household level) as a key technology for meeting the country's NDC targets.

**To strengthen governance and equity in food systems,** Brazil is developing sixteen sectoral and thematic adaptation plans, including dedicated plans for agriculture and livestock, family farming, and food and nutritional security. These plans incorporate awareness-raising, training, and conceptual alignment on topics such as ecosystem-based adaptation, climate emergency, human mobility, and climate justice. Each plan includes institutional arrangements, impact and vulnerability assessments, objectives and targets linked to funding sources, stakeholder involvement, and lessons learned. Brazil describes a vision of "climate justice" by 2035 as a priority, founded on the aspiration of "fundamental rights and the respect for the principle of human dignity."

# ANNEX: METHODOLOGY

For this report, reviewers from Climate Focus reviewed the 58 updated NDCs – so-called NDCs 3.0 – that had been submitted to the United Nations Framework Convention on Climate Change (UNFCCC) as of October 24, 2025 (see table below for list of NDCs 3.0), to determine if and to what extent food systems are incorporated in these climate plans.

It is worth noting that several Parties submitted their NDC 3.0s by October 24, 2025 that were not included in this analysis. This is because only NDCs 3.0 from Parties whose previous NDCs had been assessed in a 2022 report were included in order to compare changes across submissions. Parties that had not been included in the earlier assessments were excluded from the present analysis, even if they submitted an NDC 3.0 prior to the cut-off date. However, an updated version of this analysis will be published following COP30 to include these additional submissions.

The review and analysis involved the following steps:

1. **Gathering qualitative information from each NDC.** Reviewers used an updated version of the assessment framework from the 2022 Report to identify information related to food systems throughout each NDC using a keyword search as follows:

    **a.** In each NDC document, researchers searched for the following keywords to identify relevant mitigation and adaptation targets and measures for food systems: *"climate-smart agriculture, sustainable livestock, agroecology, regenerative agriculture, sustainable agriculture, sustainable aquaculture, sustainable fishing, sustainable land management, sustainable forest management, and agro-pastoral systems, conservation agriculture, precision agriculture, food waste, food loss, and sustainable diets, nature-based solutions, organic waste, composting, circularity, circular systems, waste mitigation, waste prevention, food system, municipal solid waste (MSW), landfill, methane, land use and land use change and forestry (LULUCF)."*

    **b.** Reviewers copied relevant text and repeated this process using the same keywords to find qualitative measures and instruments for mitigation and adaptation actions, specifically examining if measures are quantitatively grounded.

    **c.** Reviewers also gathered information on equity considerations, like inclusion of Indigenous Peoples and local communities, smallholder farmers, whether food security is considered.


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    **d.** Then, reviewers identified what ecosystems are considered in the NDC, using these keywords: forests, oceans, marine, coastal, rivers, savannahs, peatlands, grasslands, rangelands, and mangroves.

    Note: Some Parties have measures that explicitly state they are joint mitigation and adaptation measures. NDC reviewers thus counted these measures under both categories.

2. **Identifying trends and gaps:** Researchers compared the NDCs of each Party to each other, examining whether these solutions include numerical targets and whether their co-benefits were explicitly highlighted.

3. **Deep-dive assessments:** We also conducted a deep-dive assessment of NDCs of six Parties where WWF and partner organizations organized national stakeholder dialogues during 2024 and 2025 to strengthen their NDCs for agriculture and food systems transformation using the Food Forward NDCs tool.

| Party | Submission Date | View NDC |
|---|---|---|
| ANDORRA | 2025-02-05 | Link |
| ANGOLA | 2025-09-13 | Link |
| AUSTRALIA | 2025-09-18 | Link |
| BANGLADESH | 2025-09-29 | Link |
| BARBADOS | 2025-08-30 | Link |
| BELIZE | 2025-06-14 | Link |
| BOLIVIA (PLURINATIONAL STATE OF) | 2025-09-29 | Link |
| BRAZIL | 2024-11-13 | Link |
| CAMBODIA | 2025-08-08 | Link |
| CANADA | 2025-02-12 | Link |
| CHILE | 2025-09-23 | Link |
| COLOMBIA | 2025-09-25 | Link |
| CUBA | 2025-02-27 | Link |
| ESWATINI | 2025-09-22 | Link |
| ETHIOPIA | 2025-09-26 | Link |
| ICELAND | 2025-09-30 | Link |
| JAMAICA | 2025-09-22 | Link |
| JAPAN | 2025-02-18 | Link |
| JORDAN | 2025-09-22 | Link |
| KENYA | 2025-04-30 | Link |
| KYRGYZSTAN | 2025-10-02 | Link |
| LEBANON | 2025-09-30 | Link |
| LIBERIA | 2025-09-24 | Link |
| MALAYSIA | 2025-10-24 | Link |
| MALDIVES | 2025-02-27 | Link |
| MARSHALL ISLANDS | 2025-02-10 | Link |
| MAURITIUS | 2025-09-29 | Link |
| MICRONESIA (FEDERATED STATES OF) | 2025-09-24 | Link |
| MONACO | 2025-07-16 | Link |

| Party | Submission Date | View NDC |
|---|---|---|
| MONGOLIA | 2025-09-24 | Link |
| MONTENEGRO | 2025-02-21 | Link |
| MOROCCO | 2025-09-30 | Link |
| NEPAL | 2025-05-19 | Link |
| NEW ZEALAND | 2025-01-31 | Link |
| NICARAGUA | 2025-09-19 | Link |
| NIGERIA | 2025-09-22 | Link |
| NORWAY | 2025-06-26 | Link |
| PAKISTAN | 2025-09-24 | Link |
| PANAMA | 2025-09-30 | Link |
| REPUBLIC OF MOLDOVA | 2025-05-06 | Link |
| SAINT LUCIA | 2025-02-06 | Link |
| SAO TOME AND PRINCIPE | 2025-09-30 | Link |
| SERBIA | 2025-09-12 | Link |
| SEYCHELLES | 2025-09-30 | Link |
| SINGAPORE | 2025-02-10 | Link |
| SOLOMON ISLANDS | 2025-08-13 | Link |
| SOMALIA | 2025-09-08 | Link |
| SOUTH AFRICA | 2025-10-24 | Link |
| SRI LANKA | 2025-09-25 | Link |
| SWITZERLAND | 2025-01-29 | Link |
| TUNISIA | 2025-09-22 | Link |
| TUVALU | 2025-09-26 | Link |
| UNITED ARAB EMIRATES | 2024-11-06 | Link |
| UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND | 2025-01-30 | Link |
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To stop the degradation of the planet’s natural environment and to build a future in which humans live in harmony with nature.

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Reinhardtstr. 18 | 10117 Berlin | Germany
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