

UNTAPPED OPPORTUNITIES FOR CLIMATE ACTION

An assessment of food systems in
Nationally Determined Contributions



COUNTRY ASSESSMENT

BANGLADESH



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Suggestion for Referencing: Global Alliance for the Future of Food. *Untapped Opportunities for Climate Action: An Assessment of Food Systems in Nationally Determined Contributions*. n.p.: Global Alliance for the Future of Food, 2022.

Commissioned by the Global Alliance for the Future of Food.

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PREFACE

Integrating food systems transformation into the Nationally Determined Contributions (NDCs) – the national climate actions at the heart of the Paris Agreement, is critical to delivering on interconnected ecological, biodiversity, health, economic, social, and cultural goals. Taking a food systems approach builds climate resilience and results in a diversity of context-specific solutions for food production, distribution, consumption, and waste. Yet, food systems are rarely prioritized in climate policy.

This country assessment is part of a suite of publications that are designed to centre food systems transformation in future climate policy:

- 1. Untapped Opportunities for Climate Action: An Assessment of Food Systems in Nationally Determined Contributions:** A summary report providing a synthesis of the 14 country assessments with recommendations and priority actions for policymakers and climate policy advisors
- 2. A Practical Guide to Assessing Food Systems in Nationally Determined Contributions (NDCs):** A guide with a framework designed to enable users to take a food systems approach to developing future NDCs and implementing climate policies.
- 3. A set of 14 country assessments** examining the latest NDCs of 14 countries from around the world, outlining areas of improvement and opportunity.

Users are also encouraged to read **Confronting the Climate Crisis with Food Systems Transformation: Stories of Action from 14 Countries**, which provides a catalogue of global case studies that complement the suite of materials for policymakers, advisors, and advocates of climate action.

OVERVIEW OF BANGLADESH'S FOOD SYSTEMS

Food production is vital to Bangladesh's economy. Agriculture, forestry, and fisheries account for 38% of national employment, and the sector comprises 12% of the country's gross domestic product (GDP).¹ Rice is the main commodity produced in the country, accounting for nearly half of agricultural employment.² Bangladesh is also a large producer of wheat, jute, and potatoes. Beyond crops, fisheries are an important source of food.³ The main exported agricultural commodities are wheat, soybeans, palm oil, raw sugar, and dried legumes.⁴

Around 84% of the rural population in Bangladesh depends either directly or indirectly on agriculture for their livelihoods. In rural areas, agriculture and food production form the main source of employment. Studies have found that over 40% of the agricultural labour force is self-employed, with unpaid family workers comprising a further 22%. Poverty is also widespread among rural communities in Bangladesh, putting socio-economic constraints on the use of new farm-level technologies.⁵

The country faces chronic food insecurity and malnutrition. Although in decline, between 2017 and 2019, severe food insecurity was prevalent among 10% of the population.⁶ Vitamin C, iron, and other mineral nutritional deficiencies are widespread and result in diseases that hamper physical growth and brain development among children.⁷ Nevertheless, the share of children who are underweight has declined from 32% in 2012 to 23% in 2019, and in the same period chronic undernutrition fell from 42% to 28%. At the same time, the share of children who are overweight is increasing, albeit at a slower rate, from 1.6% in 2012 to 2.4% in 2019.⁸

Highly imbalanced diets that rely primarily on cereals for caloric intake contribute to the country's malnutrition challenges. Rice is the main source of energy in the diets of an estimated 135 million people in Bangladesh.⁹ Especially low-income households rely on cereals mainly due to limited availability and affordability of other foods.¹⁰

Rapid population growth and a refugee influx in recent years has put pressure on increasing food production. In the last two decades, the Bangladeshi population grew by more than 36 million people to 163 million in 2019,¹¹ and is expected to grow further to 222 million people by 2050.¹² The country saw a large influx of nearly 706,000 Rohingya refugees in 2017, as violence erupted in neighbouring Myanmar.¹³ These ongoing developments continuously challenge national food security and further pressure domestic food production.¹⁴

The country's vulnerability to floods, saline intrusions, and droughts further exacerbates risks to food security. These climate vulnerabilities are expected to worsen as the global temperature rises. For the traditional food system of Bangladesh to function optimally, it requires stable rainfall and temperature patterns, as well as stable water levels and soil conditions. A combination of factors — including a lack of stress-tolerant varieties, changing cropping patterns, excessive and unplanned urbanization, uncontrolled use of natural resources, and unplanned industrial growth — all increase Bangladesh's vulnerability to climate change and natural disasters.¹⁵ Previous years have seen an increased reliance on imports as a result of natural disasters. In 2017, 2019, and 2020, multiple floods disrupted food production, and mainly domestic rice production. As a consequence, during these years Bangladesh imported substantial amounts of rice to meet food demand.¹⁶

The government of Bangladesh prioritizes adaptation over mitigation, focusing on the country's objective to become climate resilient.¹⁷ Bangladesh is one of the smallest emitters of greenhouse gas (GHG) globally. In 2017, the country accounted for only 0.23% of global emissions.¹⁸ Nonetheless, food production is estimated to contribute the most to national GHG emissions, accounting for 39% of total emissions in 2016.¹⁹ Current rice cultivation practices in Bangladesh are a significant source of methane emission, as rice paddies subsumed in pumped-up ground water provide suitable conditions for this gas to be emitted. Poor manure management is another significant source of emissions, notably nitrogen.²⁰ While currently the focus in Bangladesh is on adaptation, one interview notes that mitigation and mitigation co-benefits should become more strongly integrated into climate policy as well, as the country keeps developing economically. If Bangladesh does not act on mitigation in a timely manner, it will make the same mistake as current developed countries and miss a significant opportunity for leapfrogging. Mitigation efforts can be pursued combined with adaptation — improving sustainable energy access, for instance, also supports communities in accessing clean water.²¹

Achieving food security and developing a more resilient and adaptive food system are key objectives of the government. Since Bangladesh's food system is especially vulnerable to climate change,²² ensuring food security and resilience have been key priorities of the National Government for the last decades, mainly pursued under the Ministry of Food.²³ The ministry consistently adheres to three core objectives in its policies: 1) achieve adequate and stable supply of safe and nutritious food; 2) increase purchasing power and access to food by all; and 3) provide adequate nutrition for all individuals, especially women and children.²⁴

COVID-19 has further exacerbated food insecurity and malnutrition in Bangladesh. The current pandemic has caused a decline in domestic purchasing power, in turn leading to an increase in food loss. This especially threatens farmer income and rural livelihoods: Many have been forced to sell their products at lower prices, while the majority have not received any government aid. Furthermore, food transportation has stalled during the pandemic, further impacting farmers' ability to sell their products and threatening access to food.²⁵ These factors have together put further pressure on food security.²⁶ Beyond food production and economic development, the pandemic has also affected the implementation of nutrition programs across Bangladesh for malnourished children.²⁷

NDC STATUS

After submitting an interim Nationally Determined Contribution (NDC) in 2020, Bangladesh submitted a fully updated NDC in August 2021 and aims to submit its National Adaptation Plan (NAP) later in the year. The interim NDC suggests that the submitted NDC was “built on the theme of the Bangladesh Climate Change Strategy and Action Plan (BCCSAP)”²⁸ — the country’s overarching policy on mitigation and low-carbon development. While also considered under mitigation efforts in the updated NDC, targets and measures for food security and resilience are mainly approached through an adaptation lens and are therefore expected to be primarily featured in the NAP.²⁹

The NDC sets an unconditional emission reduction target of 6.73% compared to 2012 levels, which may be raised to a 15.12% reduction target if the government receives international support. The energy sector is designated to cover the largest share of the emission reductions under both the unconditional (95.4%) and conditional (96.5%) target. Both the agriculture, forest, and other land use (AFOLU) sector, as well as the waste sector, account for 2.2% and 2.9%, respectively, under the unconditional and conditional target.

The following assessment was conducted between March and November 2021, and is largely based on Bangladesh’s updated NDC and supplementary documents, as well as interviews with eight key stakeholders.

KEY FINDINGS

NDC DEVELOPMENT PROCESS

TABLE 1: NDC DEVELOPMENT: KEY FINDINGS AT A GLANCE

Key findings

- In comparison to the Intended Nationally Determined Contribution (INDC) development process – which was led by external actors – the updated Nationally Determined Contribution (NDC) was developed within a national process.
- The updated NDC was developed by a consortium of national expert organizations commissioned by the Ministry of Environment, Forests, and Climate Change (MoEFCC).
- Interviews indicate that multiple ministries have informed the development of concrete targets and measures in the updated NDC.
- Effort for cross-ministerial collaboration and stakeholder dialogues are underway.
- The development of the updated NDC involved a wide, yet selective, consultation process.
- Record is kept of the development process and efforts are undertaken to consolidate research, informational systems, and databases.

Areas for improvement

- Expand the consultation process of the NDC to involve local communities, women, smallholder farmers, Indigenous Peoples, and other marginalized groups.
- Aim to integrate a holistic food systems perspective in the NDC and National Adaptation Plan (NAP) development processes.
- Improve policy coherence across ministries by leveraging recent political developments such as cross-ministerial dialogues on food systems.
- Ensure stocktaking of data and research relevant for the updates of the NDC to continuously build institutional knowledge.

In comparison to the INDC development process, which was led by external actors, the updated NDC was developed within a national process. The INDC of Bangladesh submitted in 2015 was mainly drafted by an external consultancy organization. One consequence of this process was that government officials were unable to retain data, information, and capacity that supported the development of the INDC's targets and measures.³⁰ The interim and updated NDC are embedded in national policy processes, allowing for more national ownership. As such, interviews indicate that included measures and targets are expected to be ambitious yet actionable and feasible to implement.³¹

The updated NDC was developed by a consortium of national expert organizations commissioned by the Ministry of Environment, Forests, and Climate Change (MoEFCC). The consortium is mainly

composed of climate change experts, who also have led the development of the updated NDC, as well as the forthcoming NAP.³² While experts in agriculture and land use are part of the consortium, it does not include members whose main expertise is in food systems or health.³³

Interviews indicate that multiple ministries have informed the development of concrete targets and measures in the updated NDC. Ministerial meetings have been convened to provide data informing the development of updated submission. This is done as a means to address the issue that governmental bodies in Bangladesh often work in silos, hampering policy coherence and coordinated governance.³⁴ For instance, until recently, the MoEFCC have rarely collaborated with the Ministry of Agriculture and the Ministry of Food in policy development.³⁵

Efforts for cross-ministerial collaboration and stakeholder dialogues are underway. In preparation for the UN Food Systems Summit 2021, Bangladesh conducted national dialogues to incentivize discussion and collaboration across the Ministry of Food and the Ministry of Agriculture³⁶ on how to coherently address issues related to food systems. It is expected that the outcomes of these dialogues will also lead to better collaboration with the MoEFCC on synergies between food systems and climate policies.³⁷

The development of the updated NDC involved a wide, yet selective, consultation process. Both the NDC and interviews clarify that the update has been prepared following consultations with a wide range of stakeholders, including representatives of different governmental bodies, the private sector, and civil society.³⁸ However, there appears to have been limited or no participation from representatives of local communities, women, farmers, marginalized groups, and Indigenous Peoples,³⁹ who are often absent in policy-making in Bangladesh.⁴⁰ Moreover, while civil society representatives are included in the NDC consultation process, interviewees argue that it is unclear to what extent their inputs were truly considered.⁴¹

Record is kept of the development process and efforts are undertaken to consolidate research, informational systems, and databases. This is to avoid the loss of institutional knowledge that occurred when the INDC was developed. The consortium tasked with developing the NDC is explicitly aiming to build and maintain institutional knowledge.⁴²

AREAS FOR IMPROVEMENT

Expand the consultation process of the NDC to involve local communities, women, smallholder farmers, Indigenous Peoples, and other marginalized groups. The participation of representatives of marginalized groups is often absent from policy-making in Bangladesh. One interviewee reveals that important measures that could contribute to mitigation at a local level are dismissed, partially because local communities are not properly consulted. For instance, building infrastructure to improve local food-storage capacity could significantly support rural livelihoods and contribute to local food security by substantially reducing food loss and waste. While this measure focuses on local needs, economic prosperity, and food security, it has clear mitigation co-benefits.

The NAP development process may provide an example of an inclusive development process. It was carried out by the same members of the consortium tasked with developing the NDC and included an extensive

consultation process in which several members of civil society and representatives of vulnerable groups participated.⁴³ Interviewees indicate that the Ministry of Women's Affairs and local community representatives were also included.⁴⁴ Such a consultation process could also be extended to the NDC to ensure that a more inclusive and participatory approach is taken in its development process.

Aim to integrate a holistic food systems perspective in the NDC and NAP development processes.

A first step is to improve the representation of food systems experts in the consortium tasked with developing the NDC for future updates of the NDC and NAP. Additionally, the government could facilitate more collaboration across the MoEFCC, the Ministry of Agriculture, the Ministry of Food, and the Ministry of Health. This could help identify synergies between food production, security and resilience, and health with mitigation and adaptation goals.

Improve policy coherence across ministries by leveraging recent political developments aiming at cross-ministerial dialogues on food systems.

While ministries continue to work in silos, interviews suggest that the government of Bangladesh aims to include a climate department in each of its ministries to better identify climate targets and measures relevant to each ministry.⁴⁵ These departments should be given the necessary competences to support the development of complementary policies. Additionally, the current platforms used for the national dialogues on food systems may catalyze stronger ties between the Ministry of Agriculture, the Ministry of Food, and the MoEFCC.

Ensure stocktaking of data and research relevant for the updates of the NDC to continuously build institutional knowledge.

This is to prevent earlier experiences with institutional loss that can hamper tracking progress and raising ambition when updating the NDC. Interviews indicate that the consortium tasked with developing the NDC is undertaking efforts to ensure institutional knowledge is not lost again, and that the proposed MRV system will further support this endeavour.⁴⁶ Moreover, when data for particular sectors (for example, energy or agriculture) are missing, preliminary data could still be acquired through building individual case studies.⁴⁷

CONTENT OF THE NDC

TABLE 2: NDC CONTENT: KEY FINDINGS AT A GLANCE

Key findings

- The NDC includes multiple measures for agriculture to improve infrastructure and reduce emissions from rice fields, fertilizer use, enteric fermentation, and manure management.
- The NDC includes measures with the aim to protect, conserve, and recover trees and forested areas.
- While farmers are mentioned in the NDC in some instances, marginalized groups and Indigenous Peoples are not considered within the NDC.
- The NDC mentions several financial mechanisms that aim to support the development and implementation of regenerative approaches and agroecology.

Areas for improvement

- Include smallholder farmers, women, and Indigenous Peoples as important agents of change in targets and measures related to food systems.
- Recognize the role of sustainable food systems for food security, food resilience, better health, and economic prosperity.
- Support measures for agriculture and food production, such as shifting rice cultivation practices, with parallel investment in infrastructure, technology, and capacity-building.
- Scale payment schemes for ecosystem services as a measure to incentivize conservation practices in the fisheries and protein supply chains.
- Recognize the nutrition and health benefits of sustainable diets and make alternative foods more accessible.
- Beyond industrial and general waste, include separate measures in the NDC for reducing food loss and waste.
- Address the distribution of impacts following the NDC to ensure equity and fairness among those affected by measures and targets.
- Include commitments made in the context of the Glasgow Leaders' Declaration on Forests.

The NDC includes multiple measures for agriculture to improve infrastructure and reduce emissions from rice fields, fertilizer use, enteric fermentation, and manure management. Under its unconditional measures, the NDC includes a target to implement 5,925 solar irrigation pumps for agriculture by 2030, generating 176 MW of energy. Furthermore, it includes targets to reduce methane emissions from rice cultivation by improving the sustainability of cultivation practices, such as by extending land areas using alternate wetting and drying (AWD), as well as by improving rice varieties. Similarly, measures are also included

to improve crop management, fertilizer use, as well as increase the uptake of pulse cultivation. Measures to reduce emissions from the livestock sector by replacing low-productive animals with high-producing crossbred cattle are also included. Lastly, manure management is aimed to be improved under the NDC through the promotion of mini biogas plants and by offering awareness and training programs to farmers. Under the conditional target of the NDC, these measures are scaled in size and ambition.

The NDC includes measures with the aim to protect, conserve, and recover trees and forested areas. Under its unconditional targets, it aims to increase tree cover from 22.37% in 2014 to 24% in 2030. The NDC suggests this will be pursued through afforestation and reforestation activities on nearly 500,000 hectares of land in coastal areas, islands, degraded areas, hills, and plains. Additionally, the NDC includes measures for tree plantation on roadsides, embankments, and private lands, but without quantifying any land area. Under the conditional target, the measures are scaled in scope to cover more hectares of land. Furthermore, the NDC highlights the Forest Investment Plan (FIP), a financial mechanism aimed at supporting afforestation and reforestation activities. According to one interviewee, afforestation and reforestation programs in Bangladesh — often developed in the context of REDD+ — do not provide enough safeguards for local communities, frequently impacting them negatively.⁴⁸

While farmers are mentioned in the NDC in some instances, marginalized groups and Indigenous Peoples are not considered in the NDC. Targets and measures for agriculture suggest engagement with farmers in training programs for improving farming practices. There is no mention, however, of any action or measures that engages with women or Indigenous Peoples. The BCCSAP, on the other hand, includes multiple agriculture and conservation initiatives that aim to engage local communities and smallholder farmers. For instance, two programs under the BCCSAP aim to actively involve local communities in planning and investment processes. In another example, local people are to be involved in monitoring progress of an ecosystem impacts program. In practice, the implementation and development of the BCCSAP have been criticized for involving civil society and vulnerable groups in a limited capacity.⁴⁹

The NDC mentions several financial mechanisms that aim to support the development and implementation of regenerative approaches and agroecology. Most importantly, these include the Bangladesh Climate Change Trust Fund (BCCTF) and the FIP. The BCCTF finances the implementation of strategic actions prepared under the BCCSAP, including actions on food security and production. The FIP aims to identify future investment opportunities to support reforestation, prevent further deforestation, and secure and improve the livelihoods of forest-dependent communities. More broadly, 8% of Bangladesh's national budget is earmarked for climate mitigation and adaptation.⁵⁰

AREAS FOR IMPROVEMENT

Include smallholder farmers, women, and Indigenous Peoples as important agents of change in targets and measures related to food systems. Considering that these groups constitute the majority of agricultural holdings across Bangladesh, their active engagement in transitioning to sustainable and resilient food systems is key. This includes safeguarding their land rights, recognizing the specific constraints they face due to their socio-economic conditions and climate vulnerabilities, as well as including their participation in measures that relate to improving the sustainability and resilience of food production.⁵¹

Recognize the role of sustainable food systems for food security, food resilience, better health, and economic prosperity. While the adaptation benefits of transforming food systems are widely recognized in Bangladeshi policies, it is less so the case when recognizing the co-benefits that mitigation can also contribute to. Improving the sustainability and reducing the carbon footprint of food production can contribute to improving production efficiency and resilience, diversifying crop production, and maintaining fish stocks. In turn, these measures can improve food security and the availability of more nutritious and healthy foods for marginalized groups, especially for young adolescent girls and children, resulting in healthier future generations. In the long term, this can contribute to improving equality of opportunities and reducing healthcare costs, thereby contributing to the economy.⁵²

Support measures for agriculture and food production, such as shifting rice cultivation practices, with parallel investment in infrastructure, technology, and capacity-building. In order to improve and adopt sustainable practices and technologies for agriculture, building the capacity, knowledge, and expertise of institutions, the private sector, supply chain actors, and smallholder farmers is essential.⁵³ When describing the support needed in the NDC for implementing targets and measures, capacity- and knowledge-building should be prioritized. While international donors often address these needs by offering services and products, interviews indicate that a more sustainable and effective form of support would be by supporting localized processes of knowledge development, training, and capacity-building.⁵⁴

Integrate mitigation (co-benefits) into adaptation measures in agriculture. In developing measures to address the adaptation needs for farmers, it is important to also seek opportunities to include parallel measures for mitigation. For instance, measures that aim to strengthen the resilience of farming practices in the face of climate change should simultaneously seek to improve sustainability and efficiency.

Payment schemes for ecosystem services can be used as a measure to incentivize conservation practices and ensure a sustainable food supply. Such a payment system is already in place in Bangladesh for the *Hilsa* fish species.⁵⁵ Studies have shown that this initiative has been effective at preserving — even enhancing — the fish stock, in turn improving its availability for consumers. Such a payment scheme could be included in the NDC as a measure of conservation and sustainable production of animal protein.⁵⁶

Recognize the nutrition and health benefits of sustainable diets and make alternative foods more accessible. A national campaign that focuses on promoting health benefits from diversified foods, especially legumes, roots, and other vegetables, can increase demand and awareness for foods other than cereals.⁵⁷ This should also recognize the growing diversification in regional cultures and demand for food currently taking shape in Bangladesh caused by migration influxes.⁵⁸ However, as mentioned earlier, a lack of buying power for nutritious, sustainable, and diversified foods affects most people, and as such policies will also need to improve food accessibility.

Beyond industrial and general waste, include separate measures in the NDC for reducing food loss and waste. While more than 10 million tons of food is wasted in Bangladesh every year, a strategy to tackle food loss and infrastructure to manage food waste is currently missing.⁵⁹ As household income increases, a rise in demand and consumption of food is expected to also increase food loss and waste⁶⁰ unless measures are pre-emptively introduced to address these issues.

Address the distribution of impacts following the NDC to ensure equity and fairness among those affected by measures and targets. The interim NDC does not address potential impacts of targets and measures. To ensure climate justice and equity, forthcoming NDCs should consider how different groups and sectors of society might be affected by its targets and measures.

Integrate the commitments made in the context of Glasgow Leaders' Declaration on Forests and Land Use. By making an explicit link in its NDC to the commitments and actions taken in the context of the Glasgow Leaders' Declaration, Bangladesh can accelerate the shift toward sustainable food systems, in particular through measures that further promote regenerative agricultural practices, restore degraded land, and protect natural ecosystems.

IMPLEMENTATION OF THE NDC

TABLE 3: NDC IMPLEMENTATION: KEY FINDINGS AT A GLANCE

Key findings

- The NDC states that a comprehensive monitoring, reporting, and verification (MRV) system is currently being developed.
- The NDC indicates the use of financial vehicles and fiscal policies for implementing actions and measures, and calls for international financial support.
- The implementation of local mitigation and adaptation efforts is mostly led by sub-national government officials.

Areas for improvement

- Build on current momentum to formalize the collaboration across ministries in the implementation of the NDC.
- Include marginalized groups, farmers, women, and Indigenous Peoples in the development of the MRV system proposed for the NDC.
- Use and expand existing financial vehicles to include programs that provide funding for transitioning to sustainable food systems and creating more employment opportunities.
- Adjust current financial vehicles for implementing targets and measures to allow for private and multilateral investments.
- Ensure domestic ownership is prioritized in development cooperation.

The NDC states that a comprehensive monitoring, reporting, and verification (MRV) system is currently being developed. According to interviews, the new MRV system includes plans for multiple (sectoral) stakeholders to collect data and progress on the implementation of the NDC under the supervision of the MoEFCC.⁶¹ Moreover, the MRV system is expected to ensure that stakeholders also bear part of the responsibility for implementing the NDC.⁶² The NDC itself furthermore indicates that MoEFCC is preparing an NDC implementation roadmap and action plan that will suggest governance arrangements for the NDC and NAP implementation framework. At this moment, however, it is unclear what the role of ministries, local institutions, Indigenous Peoples, and women will be in both implementing and monitoring the NDC.

The NDC indicates the use of financial vehicles and fiscal policies for implementing actions and measures and calls for international financial support. As discussed earlier, the NDC mentions the BCCTF and the FIP as important financial vehicles that are currently used for financing climate actions and conservation practices. Additionally, it also mentions that the government of Bangladesh has developed the Climate Fiscal Framework (CFF), a policy tool that is used to guide the development of fiscal policies for financing climate change-related measures. Moreover, the NDC states that banks and financial institutions will continue to play a vital role in financing low-carbon climate-resilient projects and programs through their separate Green Banking tool. For its full implementation, however, the NDC states that Bangladesh will be dependent on the support of international stakeholders.

The implementation of local mitigation and adaptation efforts is mostly led by sub-national government officials. Interviews suggest that most local mitigation and adaptation projects in Bangladesh, either as part of the NDC or other climate policies, are mostly led by sub-national governments, rather than locally elected bodies or community representatives. Arguably, this comes from the government's assumption that local communities are not interested in engaging in coordination for such projects.⁶³

AREAS FOR IMPROVEMENT

Build on current momentum to formalize the collaboration across ministries in the implementation of the NDC. As discussed earlier, national dialogues in preparation of the UN Food Systems Summit are currently facilitating collaboration between the Ministry of Food and the Ministry of Agriculture, and are also expected to lead to improved collaboration with the MoEFCC for developing climate policies that integrate food systems. The platform that is now used for the national dialogues could therefore be well extended beyond the UN Food Systems Summit to solidify engagement of these ministries in the implementation of the NDC.

Include marginalized groups including local communities, farmers, women, and Indigenous Peoples in the development of the MRV system proposed for the NDC. While the proposed MRV system for the forthcoming NDC as discussed earlier will involve the participation of multiple stakeholders, it should be ensured that marginalized groups are engaged in the monitoring process as well. Interviews suggest that several sectoral stakeholders will be required to prepare annual reports on the NDC implementation status. It would be beneficial to include marginalized groups, farmers, women, and Indigenous Peoples in this process, so as to ensure their active participation in the implementation of the NDC.

Furthermore, engage local communities and women more strongly in the implementation of local mitigation and adaptation projects through capacity-building. Civil society organizations have demonstrated that local communities are willing and necessary to participate in implementation. As such, locally elected bodies should coordinate projects, and local communities and women can be supported in engagement by offering training and allocating more resources from national budgets. It is especially important to engage women, as they have proven to be innovative and essential for maintaining local food security if they are offered adequate support.⁶⁴

Use and expand existing financial vehicles to include programs that provide funding for transitioning to sustainable food systems and creating more employment opportunities. The BCCTF and FIP may already provide investments that support the use of sustainable agriculture or conservation practices, but additional programs within both financial instruments could be included that support the transition to sustainable food systems as well as address food loss and waste. A particular opportunity here is also to include investment programs for creating new employment opportunities, as there is great potential for additional jobs when transforming the food system of Bangladesh.⁶⁵

Adjust current financial vehicles for implementing targets and measures to allow for private and multilateral investments. Currently, the BCCTF and the FIP are funded domestically, as indicated in the interim NDC. Allowing external funding for these financial vehicles could create additional capital and resources to implement the NDC.

Ensuring domestic ownership is prioritized in development cooperation. Development cooperation grants, services, and products are often owned by the donor agency rather than the recipient, which results in these programs adhering more to the interests of the donor rather than the needs of the recipient. As suggested earlier, interviews indicate that a more sustainable and effective form of development cooperation is to support localized processes of knowledge development, training, and capacity-building.⁶⁶

CASE STUDY SUMMARY

World Fish, Bangladesh

Fish with rice is the Bangladeshi national dish, giving rise to the proverb *Maache-Bhate Bangali* (translated: “A Bengali is made of fish and rice”), and both are embedded within the food cultures and traditions of the Bangladeshi people, especially within rural populations living in poverty. The floodplains of Bangladesh are a highly valued resource and provide a range of livelihood and ecosystem services for the millions of farmers and fishers who rely on them for food and income. In these floodplains, many farmers and fishers focus on rice–fish production systems, which are dependent on the seasonal cycles of the floodplain: growing rice during the dry seasons (for home consumption and the export market) and raising highly nutritious fish for local consumption, during the 4- to 5-month monsoon season.

The community-based fisheries aquaculture (CBFA) program, run by WorldFish, highlights how Bangladesh’s floodplains and the rice–fish production systems can be managed in a way that engenders more equitable communities, improves access to nutritious foods, and builds resilient ecosystems (through focusing on improvements in biodiversity), which can in turn mitigate the impacts of climate change. The program has positively impacted the region’s local communities by:

1. Increasing fishers’ income from fish culture.
2. Creating alternative employment = generating activities and increasing labour productivity.
3. Increasing the availability and access to a greater diversity of nutritious and indigenous fish-based foods.

The CBFA model focuses on establishing cooperatives known as Community-Based Organizations (CBOs), formed from a diverse group of actors (fishers, farmers, landless peoples, civil society groups, NGOs, local and national governments). These cooperatives receive training and then develop their own locally relevant governance approach to the CBO, including the establishment of a set of rules and regulations, ensuring the project involves the local beneficiaries/community from the outset.

The CBOs focus on investing in construction of simple structures that help farmers and fishers retain water for longer, which in turn help build soil organic matter and moisture content and improve the diversity of native fish species. Enclosure fences were constructed with small grating holes set up that allowed small indigenous fish to move freely in and out throughout the floodplain, while containing the large fingerlings of stocked carp. This in turn reduces the need for artificial fertilizers and pesticides, which the rice paddies traditionally used, and reduces methane emissions as a result of decomposing organic matter.

The project works closely with many local and regional governments, and has presented strong evidence in favour of revised government policies that encourage and regulate investments in improved floodplain management and strengthen the agency of local communities to manage this resource — for example, the advocacy of longer-term lease agreements for landless fishers to ensure longer-term food security and access to land for these disadvantaged groups.

Further information and access to the detailed case study can be found [here](#).

ENDNOTES

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ACKNOWLEDGEMENTS

We are grateful to the individuals and organizations who provided their time and expertise, in many different ways, to the development and improvement of this assessment: Saleemul Huq, M. A. Sattar Mandal, Mohammad Asaduzzaman, Wais Kabir, Jahangir Masum. This country assessment were made possible with the support of One Earth, Crown Family Philanthropies, and Oak Foundation.

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