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EXECUTIVE SUMMARY

PANAMA COUNTRY DIAGNOSTIC CASE STUDY

The Republic of Panama is a Central American country bordered by the Caribbean Sea. To the North, the Pacific Ocean, to the South, Colombia, to the East, and to Costa Rica to the West. With a population of 4,064,7801 and a GDP per capita of USD 17,357.62, Panama is considered a high-income country by the World Bank. However, persistent poverty and income inequality disproportionately affect rural indigenous territories and Afro-Panamanian populations. The Panama country diagnostic highlights the country's priorities, gaps, and opportunities to support climate-resilient, equitable, and inclusive food systems.

The Climate Resilient Food System (CRFS) Alliance launched country diagnostics in 2022, with the first batch of countries comprising Ethiopia, Fiji, Belize, and The Gambia. These reports aim to facilitate resources, mobilization and exchange of best practices amongst countries. These case studies consider the country's Nationally Determined Contributions, National Adaptation Plans,

Food System Pathways, and other relevant national strategies relating to food and climate change.

The Panama Country Diagnostic Report sheds light on the country's food system in it is entirety from the point of production, consumption, and distribution, considering the status, challenges and opportunities that exist. The agricultural sector remains a vital component of Panama's economy, particularly for rural employment, despite contributing only 2.7% to GDP in 2021.

Rice cultivation dominates the agricultural landscape, with 95,053 hectares under production, followed by maize, sugarcane, and bananas. However, the sector's heavy reliance on imports for key staples reveals underlying vulnerabilities, since Panama imports approximately 80% of the maize it consumes, primarily for animal feed. These production challenges are compounded by Panama's diverse geography, which creates both

opportunities and risks across different climatic zones, from the drought-prone Dry Arc Region to flood-vulnerable coastal areas. Climate change impacts are already reshaping Panama's agricultural potential. Rising temperatures have pushed banana cultivation beyond optimal thresholds in some areas, with projections indicating current varieties may become unsuitable below 600 meters elevation by 2050. Similarly, maize production, predominantly managed by small-scale farmers who account for 81% of output, faces declining yields due to changing rainfall patterns. The fisheries sector, crucial for both nutrition and exports, confronts multiple threats from sea level rise and warming ocean temperatures that are altering marine ecosystems. These climate impacts intersect with systemic challenges in Panama's food supply chains, where post-harvest losses reach 40-60% due to inadequate storage and lengthy transportation routes that expose perishable goods to spoilage.

Panama has responded to these challenges with an ambitious policy framework. The National Adaptation Plan which is still being developed will incorporate food system resilience as a key priority and encompasses ten adaptation themes.

The updated Nationally Determined Contributions (2024) commit to restoring degraded lands through agroforestry and silvopastoral systems. Further the NDC places an emphasis on nature-based solutions, disaster risk management, adaptation measures and carbon footprint reduction.

Panama has also launched the National Climate Transparency Platform, featuring seven modules, including an adaptation monitoring and evaluation system. The government has implemented practical initiatives like the Cold Chain program to reduce food losses and established commodity-specific agrifood chains to strengthen sector coordination. However, translating these policies into tangible improvements requires addressing persistent gaps in implementation, and in ensuring indigenous communities can meaningfully participate in adaptation planning.

The Ministry of Environment and the Ministry of Agricultural Development (MIDA) lead efforts on climate change and food systems. The Climate Change Department within the Ministry of Environment coordinates national climate action, ensures compliance with international commitments, and supports policy development and climate finance.

MIDA focuses on climate-resilient agriculture, particularly through its Department of Rural Engineering and Irrigation, which promotes productivity and sustainable resource use. Academic governmental institutions like the Agricultural Innovation Institute of Panama (IDIAP) contribute through research and technology transfer. While coordination platforms exist to engage civil society, NGOs, and the private sector, challenges remain in aligning actions across ministries, as food and climate issues are often addressed separately.

The path forward for Panama involves strengthening connections between its robust policy framework and on-the-ground implementation.

The proposed entry points for the CRFS Alliance include improving climate information systems to support farmer decision-making, modernizing agriculture approaches, e.g., the incorporation of Agrotechnology, establishing fair and balanced trade relations that benefit domestic producers while ensuring access to affordable food for the population, and upgrading post-harvest infrastructure to reduce food losses. Equally important will be fostering greater collaboration across government agencies and with producer organizations to overcome institutional fragmentation. By addressing these challenges, Panama can leverage its policy leadership and ecological advantages to build a food system that delivers both climate resilience and inclusive development, one that protects livelihoods while safeguarding the country's rich biodiversity for future generations.