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EXECUTIVE SUMMARY

PAKISTAN COUNTRY DIAGNOSTIC CASE STUDY

Pakistan has a population of 229.22 million (2022) and a GDP of \$353 billion. Agriculture contributes 20% to GDP and employs 65% of the labour force. The country has diverse climates (glacial, humid, arid, extremely arid) and relies heavily on the Indus River for agriculture and water resources. Around 37% of households are food insecure, with high rates of malnutrition and stunting among children.

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 resource mobilization and the 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. Pakistan Country Diagnostic Report 2023 examines the country's food systems by tracing each step from production, through distribution, to consumption.

It sheds light on the country's national circumstances, food systems, climate risks, and agricultural policies in Pakistan as of July 2023. Pakistan has 10 agro-ecological zones, producing 100+ crops. Major crops include wheat, rice, cotton, and sugarcane. However, water scarcity, inefficient irrigation, and land degradation are major challenges. Livestock contributes 63% to agricultural GDP. Pakistan is a leading milk producer but faces issues like disease control and low-quality feed. Food demand is rising, with heavy reliance on imports for edible oil and dry milk.

Pakistan is among the top 10 most climate-vulnerable countries in the world. Key hazards include floods, droughts, heatwaves, glacial melt, and sea-level rise. Climate change affects crop yields, livestock productivity, and fisheries. Extreme weather events disrupt food production, storage, and distribution. Agriculture in Pakistan is significantly affected by short-term climate variability and longer-term climate change.

Severe droughts followed by devastating floods have contributed to low crop yields, loss of livestock, damage to irrigation infrastructure, and food shortages.

Non-climatic stressors compound climate risks in Pakistan's food systems, where poverty, limited access to education and public services, and weak institutions heighten vulnerability. High pressure on natural resources has led to ecosystem degradation, desertification, and pollution, while dysfunctional drainage, water-intensive cropping, and upstream diversions worsen floods, salinity, and water scarcity, leaving downstream communities and fisheries at risk. Soil erosion and poor water management have reduced dam capacity and depleted groundwater, undermining agricultural productivity. At the same time, smallholders face barriers to finance, markets, and technology, while rural isolation limits access to information and assistance during extreme events. Together, these environmental, social, and economic stressors significantly constrain the sustainability of Pakistan's food systems.

Pakistan Vision 2025 recognizes that sufficient, reliable, clean, and cost-effective availability of energy, water, and food – for now and the future – is indispensable to ensure sustainable economic growth and development.

The National Policies include the National Climate Change Policy (2021), National Food Security Policy (2018), and National Adaptation Plan 2023. These aim to enhance climate resilience, promote sustainable agriculture, and improve disaster preparedness. Additionally, each province has its own agriculture policy focusing on climate-smart practices, water management, and value chain development.

Key institutions include the Ministry of Climate Change, the Ministry of National Food Security, and provincial departments. Coordination challenges exist due to limited resources and overlapping mandates.

The priority actions focus on advancing climate resilience through a multi-level approach. First, promoting technology transfer by enhancing efficient irrigation, introducing drought-tolerant crops, and strengthening early warning systems. Second, the application of nature-based solutions through the restoration of ecosystems in the Indus River watershed. Third, development of resilient value chains by fostering climate-smart agriculture, livestock, and fisheries, with special emphasis on empowering women and youth. Fourth, enhancing risk management by establishing robust early warning systems and disaster preparedness plans. Finally, creating an enabling environment by strengthening policies, research, and financing mechanisms to support long-term climate resilience.

The Climate Resilient Food Systems (CRFS) Alliance provides potential entry points to strengthen resilience in agri-food systems. It can contribute to South-South and North-South exchanges on adaptation technologies and encourage cross-sectoral and transboundary coordination to support ecosystem-based adaptation in the Indus River Basin. The Alliance may also help improve access to sustainable finance and technical assistance for climate-resilient value chains, while fostering linkages to complement existing efforts on integrated risk management. In addition, it can serve as a platform for gathering lessons learned, identifying barriers and opportunities faced by stakeholders, and sharing insights to inform processes such as the National Adaptation Plan (NAP).