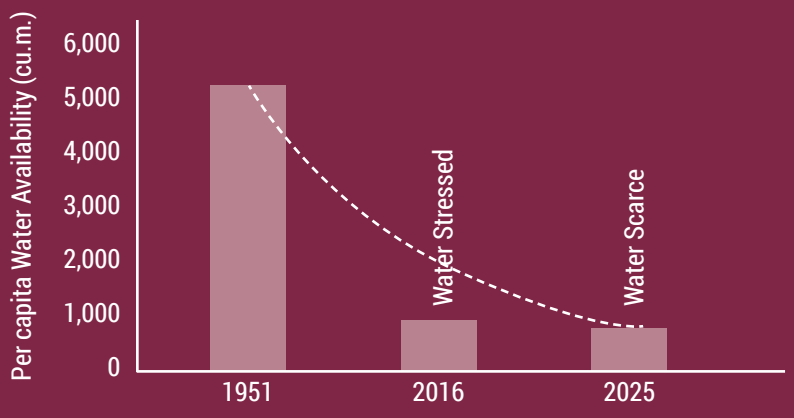
Introduction

Pakistan, home to one of the world's largest contiguous irrigation systems, is grappling with significant challenges in sustaining its agrarian economy due to a severe shortage of water resources. Per capita surface water availability has been drastically declining due to an ever-increasing population, unplanned water usage through conventional irrigation methods, urbanisation, and the impacts of climate change. Climate change has exacerbated these issues, manifesting through unpredictable precipitation patterns, flash floods in the north, and prolonged droughts in the south.



(Data Source: Census of Pakistan, and Daily Tribune 2019)

Sindh, situated in the southeastern region of Pakistan and the country's third-largest province by land area, is facing significant water-related challenges. These include declining water quality, rising waterlogging and salinity, the drying of tail-end canal command areas, and the disappearance of wetlands. These issues contribute to the economic insecurity of the province. There is a strong perception that both the conventional methods of water use and the current management practices need to be revised. On-farm water management approaches must expand to encompass all sources of water including surface water, groundwater, rainwater, wastewater reuse, and floodwater. User demands and water usage practices also need harmonisation.

In response to these challenges, the Government of Sindh approved its first-ever water policy, the Sindh Water Policy 2023. This policy aims to secure the comprehensive development and management of water resources to ensure the well-being of citizens and boost the provincial economy. The policy highlights