

## **Abstract**

Water is the most significant element on earth. There cannot be life on Earth unless there is no water. The study's major goal is to assess how a lockdown affects the water quality in several districts in Pakistan. In this concern, secondary data has been collected from the Pakistan Council of Research in Water Resources (PCRWR). To assess the physical and chemical quality of water, relevant techniques such as the Water Quality Index (WQI), Pearson's correlation coefficient, and paired sample t-test have been used. The Water Quality Index (WQI) is used to evaluate the adequacy of drinking water excellence. According to the water quality index, the water quality of Faisalabad, Sargodha, and Rawalpindi got worst after the lockdown, while the quality of Shaikhupura and Bahawalpur remains the same, and the water quality improves in Kasur, Lahore, Multan, Gujranwala, and Gujarat after the lockdown. Also, there is a slight change in the water quality of Sialkot (Excellent to good). To reduce the complexity of the data and produce the outcome, factor analysis has been applied. To inspect the association between parameters, multiple linear regression has been performed.