# ABSTRACT

A study of different fruits production in four provinces of Pakistan has been carried out in this dissertation. The forecast model has been developed for the production of different fruits namely, citrus, mango, apple, banana and guava in Pakistan. The data for this study was obtained from Economic Survey of Pakistan, Agriculture Statistics of Pakistan and Hydrological & Metrological Department of Weather Bureau Jail Road, Lahore. Three explanatory variables (Area, Temperature and rainfall) have been included in each model due to their practical significance.

Citrus, Mango, Apple, Banana and Guava are important fruits of the country. All the provinces have share in the total production of these fruits across the country. In this dissertation, forecast model for the production of different fruits in Pakistan has been fitted. ARIMA-X model has been fitted for each fruit. The best model has been selected by comparing the estimates of the coefficients in the ARIMA-X models to ensure that the process is stationary / invertible, the standard error of regression, log-likelihood, Akaike information criterion (AIC) & Schwarz information criterion (SIC) and Durbin-Watson test statistic. Different types of diagnostic checks have been applied on the residuals to ensure the adequacy of the estimated models. Finally, the panel model has been applied by pooling up the production of all four provinces of Pakistan. It has been observed that all estimated models accounts more than 88% variation explained by the independent variables of the different fruits production across the country.