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Passenger demand estimate for The Bandaranayake International Airport

Airports require large and very expensive infrastructure. It takes a long time to plan, design and construct these infrastructures. Hence, airport operations have to anticipate future requirements for the airport and take necessary action well in advance. To determine these futures needs, passenger demand forecasts must be available to the airport operators. Both airlines and passengers benefit from timely developed airport infrastructure facilities. Also the airlines can plan their operations depending on the available passenger demand estimates.

The first phase of the development of Bandaranayake International Airport-Colombo (BIA) was completed in 1987 and it was expected to meet the demand up to year 2000. However, due to changes in airport and airlines operations the airport is experiencing

congestion problems at some facilities during certain time periods. This has drawn an immediate need for an airport development program even fore year 2000.

The objective of the proposed study is to estimate the future traffic demand at BIa in terms of passenger movements. Emphasis was given to identify suitable demand models that are less sensitive to the historic data available. A simple model that can be calibrated based on generally published information (airport operation and socio-economic data), using existing PC-based commercial software is selected. It is found that the Gross Domestic product (GDP) is the best explanatory variable for the passenger demand estimates. Even though large number of regression models with R2 values above 0.95 can be developed, a simple multiplicative type regression model appeared to be the lest sensitive model with respect to time.