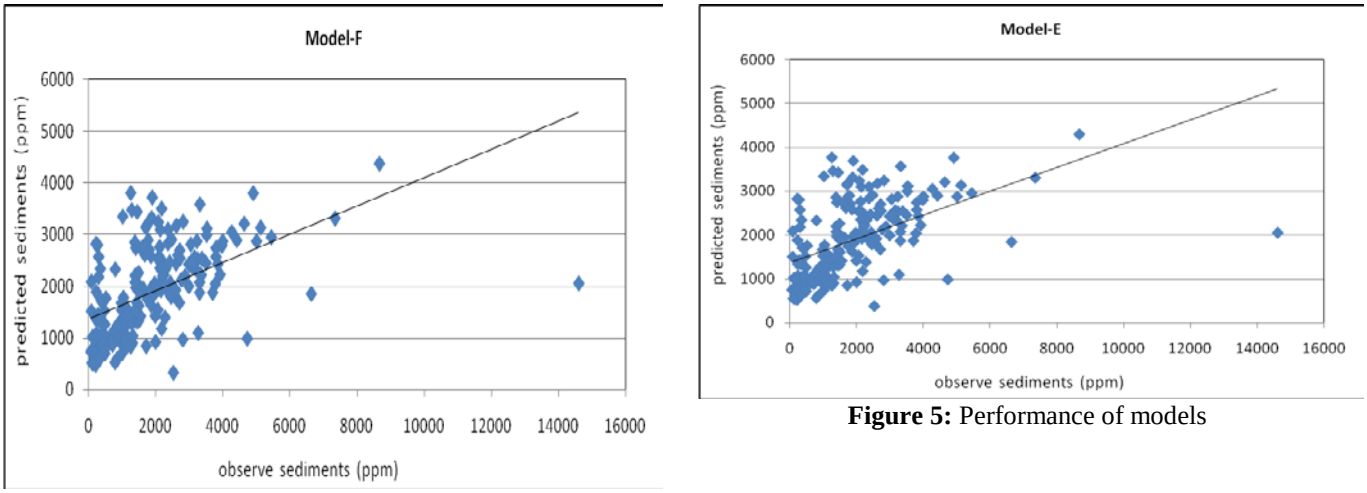

Figure 5: Performance of models

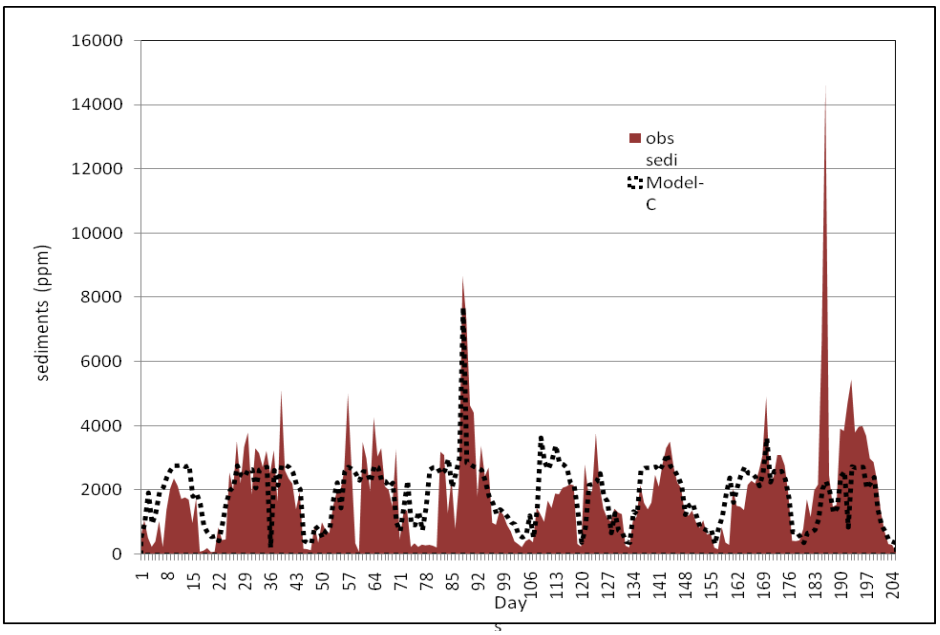

Figure 6: Observe and Computed sediments

5. Conclusions and Recommendations

The information provided by Besham Qila, a gauging station upstream the reservoir, about water discharges and sediment concentrations and the information obtained from the artificial neural network is fundamental to understand the sedimentation processes in the Tarbela Reservoir.

Field data is also extremely useful to validate numerical models. It should be noted that monitoring of sediment related processes is a demanding task, often associated with a certain degree of uncertainty due to high spatial and temporal variability.

The application of a numerical model to simulate sedimentation in the future needs to consider of a series of water discharges and operation levels representative of the future scenario. The results will depend on the assumptions made about the temporal series.

Short term predictions will depend in part on how close the real sequences are to the one used as input in the numerical model. It is assumed that predictions for dates 10 years or more into the future are representative provided that there is no change in the long term average inflows of water and sediment and the reservoir is operated in the same manner as the model assumes.

Sedimentation deposition is also depends upon rainfall and temperature of the catchment. Neural network can also be developing by using radial base function and forward propagation. It is recommended that more gauging station should be installed to avoid missing and erroneous data and stream flow gages and precipitation stations should be calibrated periodically. The predicted model can be used as a decision making for hydrologist and engineers and it can also be used to forecast the storage capacity of Tarbela Dam.

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