Chapter 7: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7-1 Summary

This study investigated the impact of manmade interventions on the River Nile morphology and hydraulic characteristics. The study area was selected where; the local people at El Rayramoon (288 km upstream Cairo) constructed a 440 m road inside the river to serve a ferry boat. The road construction caused several morphological changes to the river bed at the study area. A two dimensional numerical model (SMS) was used to simulate the study area. The model was calibrated to actual field water velocity profiles at different locations along the study area. The model was used to study the effect of different flow discharge scenarios passing through the study area. Maximum flow discharge of 184.30 $m.m^3$/day, and a flood flow discharge of 350 $m.m^3$/day were considered passing through the study area. Average mean velocities were estimated along the study area for each of the studied cases. The mean velocities were compared with the incipient velocity to determine the erosion zones. The model was used to investigate three alternatives to reduce the negative impact on the river. The effect of removing 25%, 50% and 75% of the road was tested. Each alternative was studied in both the maximum and the flood flow scenarios.