should look after the environmental impacts. On the other hand Department of Environment as the largely ineffective regulatory agency. The structure, knowledge base and approach to environmental management in DoE are dated and inadequate to deal with the problem. Dhaka City Corporation (DCC) and other pourasavas are responsible for poor and inadequate solid waste collection and disposal. Dhaka Wasa, moreover, has not succeeded in performing its basic functions of providing adequate sewage and storm drainage systems. Additionally, they have no policy on how toxic sludge should be removed and disposed."

Institute of Water Modelling (IWM), has done the technical study of the World Bank report. IWM is a trust established by the Government of Bangladesh in December 1996 to function as a centre of excellence and learning in the field of Computational Hydraulics, Water Modeling and Allied Science. It identifies industrial clusters in Gazipur, Tongi, Tejgaon, Tarabo, Ghorashal and Narayanganj and hundreds of units operating outside these clusters for the ongoing environmental pollution in Dhaka watershed including the 73 kilometres long Shitalakkhya River that flows from the Old Brahmaputra at Pakundia Kishoreganj and falls in Dhaleswari River near Munshiganj.

These industrial clusters and individual units are far from being homogenous. They include chemical processing units, textile units, plastic units, dyeing units, steel rolling, fertilizer units and oil units. An estimated 35 textiles, seven oil mills, five paper mills, two fertilizer mills, two washing plants and others are marked as the major pollutants of the river.

"Except the upstream part (above the confluence of Balu-Lakhya Rivers at Demra), the rest of the river systems is extremely polluted and cannot be thought of for any beneficial use", says SM Mahbubur Rahman, principal specialist and Head of Water Resource Planning Division of IWM.

"A very deep colour of the river water, very high Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD)indicate major pollution in the river water that depletes dissolved oxygen. A very low level of dissolved oxygen (DO) threatens aquatic life. Almost all of the industrial clusters of individual units discharge toxic chemicals such as chloride, sulfate and others. Toxic heavy metals have also been detected in the effluents from some industries", he adds.

Many factors that vary from location to location must be considered to address the degraded state of water resources. According to Mahbubur Rahman, the Environmental Quality Standards (EQS) for the rivers in Dhaka Watershed needs to be more stringent to ensure desired water quality in the rivers. For instance, he says, the water quality model results indicates that the BOD of discharged effluent should be less than 30 mg/l in Shitalakhya in place of 50 mg/l, as per EQS, to ensure DO level higher than the desired 5 mg/l in river water.

"As per IWM recommendation the World Bank is interested to set Common Effluent Treatment Plant (CETP) at various points to control the ongoing water pollution in Shitalakhya River. Initially three CEPTs will be installed at Tongi Ghorashal and Tarabo. The rest of



Domestic and industrial effluents are carried to Shitalakkhya River through Narai canal.