

# Water Resource Associates

*A network of consultants in hydraulics, hydrology, groundwater & environmental issues*

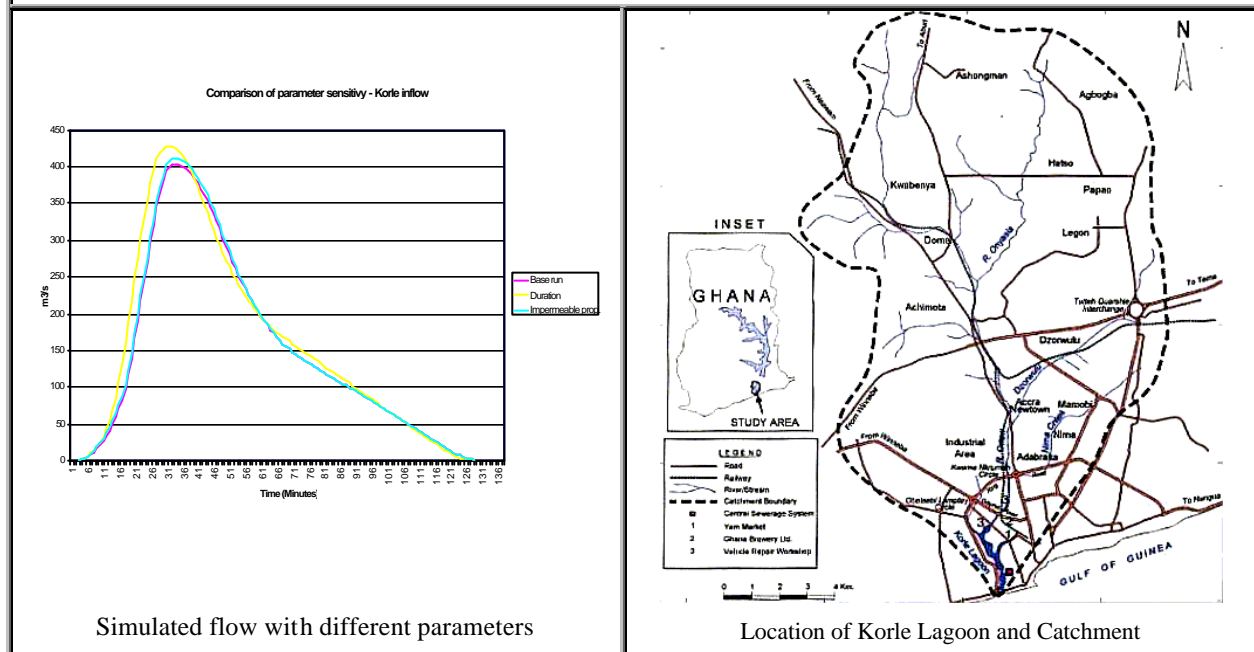
**Project title:** Hydrological study of the Korle Lagoon, Accra, Ghana

**Summary:** The inflow to the Korle lagoon in Ghana was studied to estimate the effects of urban runoff.

<b>Client:</b> Government of Ghana	<b>Financed by:</b> OPEC special fund
<b>Period of assignment:</b> 1997	<b>Location:</b> Ghana
<b>Project Value:</b> \$3 000 000	<b>WRA services:</b> Short-term specialist consultancy
<b>In co-operation with:</b> Tractebel, Belgium	

## Background

The Korle lagoon receives virtually all the runoff from the city of Accra, Ghana. As a result it is heavily polluted. In particular a lot of material carried into the lagoon in floods is deposited there. The lagoon is only a short distance from the sea and could be a valuable environmental resource if its water quality could be improved.



## Scope of work by Water Resource Associates Ltd

WRA provided a senior hydrologist at the start of the project to advise a team of three hydrologists from Tractebel on a suitable approach to adopt. The work covered three main areas: i/ Assessment of flood rainfall for given return periods; ii/ Determination of parameters to be used for calculation of inflows; iii/ Development of a model of urban flooding to test parameter sensitivity.

## Results

During the short study useful guidelines were developed in all three areas:

- A methodology to maximise use of recent rainfall data in conjunction with a statistical rainfall model developed earlier was produced.
- Advice was given on critical factors in modelling the drainage basin.
- It was found the time of concentration and shape of the rainfall profile were very important but the impermeable proportion had less effect.

Project Number 000006

### Directors

Frank A K Farquharson  
Paul A C Holmes  
Dr A Nick Mandeville

Ronald E Manley  
Dr Andrew J Wade  
Professor Paul G Whitehead

### Head Office:

PO Box 838  
Wallingford  
Oxon OX10 9XA

Tel: +44 (0) 1491 838190  
E-mail: info@watres.com