THE INSTITUTION OF ENGINEERS, MALAYSIA

Bangunan Ingenieur, Lots 60 & 62, Jalan 52/4, P.O. Box 223, Jalan Sultan, 46720 Petaling Jaya
Tel: 03-7968 4001/4002 Fax: 03-7957 7678
E-mail: sec@iem.org.my Homepage: http://www.myiem.org.my

Talk On

"Impacts of Climate Change on Water"

(Organised by the Water Resources Technical Division)

Date : 22 November 2012 (Thursday)
Time : 5.30 pm – 7.30 pm (Refreshment will be served at 5.00 pm)
Venue : Tan Sri Chin Fung Kee Auditorium, Wisma IEM, Petaling Jaya
Speakers : Ir. Hj. Ahmad Jamalluddin b. Shaaban

BEM Approved
CPD Hours: 2
IEM12/HQ/325/T

SYNOPSIS

Malaysia's water resources sector is currently plagued by three major issues, namely water excess, water shortage, and water pollution. Behind these issues looms the threat of climate change. Climate change and variability, together with non-climatic drivers such as population increase, intensive land development, and loss of forests, have physical impacts on the hydrological cycle especially in recent decades. Increased frequency of floods, increased catchment erosion and siltation, inadequate environmental flows, increased pollution and deterioration of river water quality, and limited water supply are among some climate change impacts that threaten the sustainability of our water resources. The impacts can be modelled and projected by downscaling approach using the output from Global Circulation Models (GCMs). Adopting the dynamic downscaling approach, NAHRIM has completed the development of the regional hydrologic-atmospheric model of Peninsular Malaysia (RegHCM-PM 2006), and Sabah and Sarawak (RegHCM-SS 2010), as well as Regional Climate Model (RCM) for Peninsular Malaysia, Sabah and Sarawak using PRECIS in 2010. Annual daily mean temperature projection from RegHCM model for the whole Malaysia from year 2020 up to 2099 shows the increase of surface temperature from 0.5°C to 3.5°C. The simulated future maximum monthly rainfall for the whole peninsular is expected to increase by as much as 12% compared to the simulated historical. As for Sabah and Sarawak, the maximum monthly rainfall is projected to increase at 5.1% and 8% respectively during mid-21st century. However, although the dry and wet years can be discerned throughout the century, no clear trend can be seen observed over Sarawak state. The long-term trend of annual rainfall is also not pronounced since the inter-annual precipitation variability is quite large for Sabah and Sarawak. The model output in terms of projected climatic parameters such as rainfall, temperature and evapotranspiration is very essential for the quantification of the potential climate change impacts on water resources and water resources management. This leads to the necessity for developing engineering approaches for climate change adaptation particularly to bridge and translate the gap between scientific knowledge and engineering practices in water sector, for instance reviewing of water system management and plans, reviewing design standards for water related risk management in all new infrastructures including water control structures, transportation structures and electrical, water and waste amenities to incorporate climate change factor, and complementing structural approaches with non-structural approaches such as improved rainfall and flood forecasting, disaster warning system and flood hazard mapping as part of a coordinated disaster prevention and management plan. Above all, these information need to be conveyed to policy makers or planners to be implemented or enforced in the country. These are all part of adaptation and mitigation measures to cushion climate change impact.

BIODATA OF SPEAKER

Ir. Hj. Ahmad Jamalluddin b. Shaaban currently is a Director General of NAHRIM (Mac 2009 to present). He is responsible for conducting research and consultancy services in water resources and hydrologic engineering sector focussing on impact of climate change on hydrology and water resources including adaptation; rainwater utilisation and management systems; drought management; irrigation and drainage; hydraulic modelling; estimation of probable maximum precipitation; and reservoir design and operation.

International Positions:
(i) Vice President For Scientific Affairs Of International Rainwater Catchment System Association (IRCSA) (since Nov 2009 - to date)
(ii) Member of Mekong Panel on Climate Change, Mekong River Commission (MRC)
(iii) Member of ESCAP (2009-2010)
(iv) Member International Board of Advisors 'Journal of Hydrologic Engineering', American Society of Civil Engineers (ASCE) (2003 - 2005)

National Positions:
(i) Honorary Fellow South East Asian Disaster Prevention Research Institute (SEADPRI), Universiti Kebangsaan Malaysia (UKM) (from Oct. 2010 to Sept. 2012)
(ii) Member Board of Advisors (Industrial), Universiti Sains Malaysia (USM) - Dis 2009 to date
(iii) Member Board of Advisors (Academic), Universiti Teknologi MARA (UiTM) – April 2010 to date
(iv) Member of Committee on Sustainable Water Management (CoSWM) – April 2009 to date
(v) Member of Construction Industry Development Board (CIDB) Advisory Council (May 2003 to May 2005)
(vi) Executive Committee Member, Malaysian National Committee on Irrigation and Drainage (MANCID)

Ir. Ellias b. Saidin
Chairman
Water Resources Technical Division, IEM

Announcement to note:

1. Limited seats available on a "first come first served" basis.
2. No telephone and/or fax reservation will be entertained.
3. Latecomers will not be allowed entrance, if the lecture hall is full.
4. Please bring along this flyer and membership card for confirmation of attendance (CPD purpose).

For IEM members, membership cards MUST be presented for identification purpose. Members who fail to show their membership card will be charged a fee of RM20.00.

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Students are however exempted. Your understanding is greatly appreciated.

CPD HOURS CONFIRMATION

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Signature: ..... Date : .....