

# NTS BULLETIN

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## Achieving Water Security in Disaster Situations: The ASEAN Experience



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Southeast Asia is not a stranger to numerous types of natural calamities including earthquakes, typhoons, and volcanic eruptions. Among the wide range of disaster events that have battered the region, hydro-meteorological catastrophes accounted for more than 80% of the total number of natural disaster events. These include floods, droughts, and landslides. As in all disaster situations, water security becomes an immediate critical issue. Clean water supply, hygiene and sanitation are instantly affected.

In a water security index study published in 2014, ASEAN ranked the first and the second in the world in terms of average flood and drought damages respectively. The figures stood at US\$ 6,002,888 and US\$239,512. In light of such hefty costs brought about by hydro-meteorological disasters, the vital question will be: "is ASEAN well-prepared to respond to water security concerns in disaster situations?"

#### **ASEAN and Water Security**

At the ASEAN level, collaborative efforts aimed at building water resilience

in non-disaster settings have been on going. This is exemplified in the ASEAN Cooperation on Water Resources Management. The ASEAN Strategic Plan of Action on Water Resources Management focuses on four key areas namely (i) supply; demand and allocation; (ii) water quality and sanitation; (iii) climate change and extreme events; and (iv) governance and capacity building. The ASEAN member states have acknowledged the importance of the Integrated Water Resources Management (IWRM) approach in achieving water security and are currently working on six key water management issues including (i) water supply management, (ii) irrigation management, (iii) stormwater management, (iv) flood management, (v) water pollution management, and (vi) sanitation management, at the national level.

While efforts to ensure water security in normal circumstances are taking place, the extent of countries' water security preparedness during disaster situations is less clear. Some countries such as Brunei Darussalam and Lao PDR, however, have explicitly identified climate change adaptation and disaster risk reduction in their IWRM

efforts. Such acknowledgment suggests that their national IWRM initiatives may have gone beyond business-as-usual scenarios. It also implies that they are better prepared to respond to water security concerns in times of natural disasters.

# Moving Forward: Technology and Water Security in Disaster Settings

ASEAN has realised the need to look into water security in disaster scenes. The ASEAN Working Group on Water Resources Management, the ASEAN Committee on Science and Technology, and the ASEAN Disaster Management and Humanitarian Association Division have got together to work on the issue. The primary objective of this collaborative setup is to build water management capacity in the face of the changing climate. This is a very pertinent issue considering ASEAN's susceptibility to natural disasters.

The use of technology is instru-

mental in the overall efforts to build water security. Real time data, remote sensing data and satellite images greatly help countries to understand on-the-ground situations and create targeted solutions. SERVIR-Mekong initiative is a case in point. Funded by the United States Agency for International Development (USAID) in partnership with the National Aeronautics and Space Administration (NASA) and implemented by the Asian Disaster Preparedness Cen-SERVIR-Mekong employs space technology to provide data and analysis for disaster risk reduction and environmental management, including water sources, in Lower Mekong areas.

At the regional level, ASEAN has also tapped into science and technology for disaster risk reduction and water management. In October 2016, ASEAN put forward the idea of establishing the ASEAN Hydroinformatics and Climate Data Center (AHC). The AHC will provide an institutional support for the ASEAN Water Resource Man-

agement System. It is expected to serve as a hub for strategic data sharing and management, capacity building and sharing of good practices, including community water resource management and adaptations, climate change among the ASEAN member states. In so doing, ASEAN is in the right direction in addressing water security concerns during floods, droughts and landslide events.



Image Credit: Workshop on Establishing ASEAN Hydroinformatics Center (AHC), www.aseanwater.net

#### **Suggested Readings:**

- ASEAN Application of Science and Technology in Disaster Risk Resilience Water Management Workshop
- ASEAN Integrated Water Resources Management (IWRM)
- Koontanakulvong, S., Doungmanee, P., and Hoisungwan, P., 2015, Thailand's Water Security Situation in the Context of the World and ASEAN, Proc. IAHS, 366, 117-118
- Mukand S Babel, 2016, Disasters in ASEAN Countries: Current Status and Research Needs, The First Symposium on JASTIP Disaster Prevention International Cooperation Research (JASTIP-WP4 Symposium), Kyoto, Japan
- SERVIR-Mekong: Connecting Space to Village in the Lower Mekong Region
- Sutat Weesakul, 2017, ASEAN Hydroinformatics and Climate Data Center (AHC)

#### **CLIMATE CHANGE, ENVIRONMENTAL SECURITY AND NATURAL DISASTERS**

#### **NEWS & COMMENTARIES**

Farmer suicides rise in India as climate change takes its toll

Katy Daigle,

Time

1 August 2017

Islamic State and climate change seen as world's greatest threats, poll says

Lisa Friedman,

Today

2 August 2017

Climate change to cause humid heatwaves that will kill even healthy people

Damian Carrington, The Guardian 2 August 2017

Weather disasters to impact 2 out of 3 Europeans by 2100, study says

Ashley Strickland, CNN

5 August 2017

US to join climate talks despite planned withdrawal from Paris accord

The New York Times, The Straits Times 5 August 2017

U.S. submits formal notice of withdrawal from Paris climate pact

Valerie Volcovici, Reuters

6 August 2017

The Trump administration just disbanded a federal advisory committee on climate change

Juliet Eilperin, The Washington Post 20 August 2017

SIPRI launches film on climate change, peace and security

Stockholm International Peace Research Institute 21 August 2017



Courtesy of Flickr account of European Commission DG ECHO and used under a creative commons license.

#### SELECTED PUBLICATIONS

Crop-damaging temperatures increase suicide rates in India

Tamma A. Carleton, Proceedings of the National Academy of Sciences of the United States of America Review of the draft climate science special report

The National Academies of Sciences, Engineering, and Medicine 2017

#### **EVENTS & ANNOUNCEMENTS**

Advancing National Adaptation Plans in Asia

11–12 September 2017 Seoul, South Korea People's Climate Summit 2017

3–7 November 2017 Bonn, Germany

#### **ENERGY SECURITY**

#### **NEWS AND COMMENTARIES**

#### A greener grid for East Asia

Sung-Young Kim and John A Mathews, Eco-Business 14 August 2017

China to deploy floating nuclear power plants to support geopolitical goals in Southeast Asia

Dan Yurman, The Energy Collective 15 August 2017

China, Japan and the energy quest in the East China Sea

Amrita Jash IPP Review 29 August 2017 The myth of energy security

Ali Ahmad, International Policy Digest 1 September 2017

China sees new world order with oil benchmark backed by gold

Damon Evans, Nikkei Asian Review 1 September 2017

Air pollution sapping solar power output in India, study shows

Agence France-Presse, The Straits Times 4 September 2017



Courtesy of Wikimedia account of Gretchen Mahan and used under a creative commons license.

#### **EVENTS AND ANNOUNCEMENTS**

35th ASEAN Ministers on Energy Meeting (AMEM) and Associated Meetings

25-29 September 2017 Manila, the Philippines

Nuclear Safety and Security Culture: Powering Nuclear Governance in East Asia— RSIS Roundtable at Singapore International Energy Week 2017

27 October 2017 Singapore

#### **SELECTED PUBLICATIONS**

# CNS global incidents and trafficking database

Shea Cotton, Philippe Mauger, Sam Meyer, and Jessica Varnum James Martin Center for Nonproliferation Studies 2017 ASEAN power cooperation report

ASEAN Centre for Energy 2017

#### **FOOD SECURITY**



Courtesy of Flickr account of olly301 and used under a creative commons license.

#### **SELECTED PUBLICATIONS**

Can Tho statement on enhancing food security and sustainable agriculture in response to climate change APEC 2017 Global report on food crises 2017 World Food Programme 2017

#### **NEWS & COMMENTARIES**

Bio-technology, a powerful tool for sustainable agriculture: APEC Viet Nam News, The Nation 22 August 2017

Centre to study nutritional health for elderly set up Jose Hong, The Straits Times 1 September 2017

Qatar beats siege with 90 days of resolute resilience Irfan Bukhari, The Peninsula Qatar 2 September 2017 Giant ocean fish farms to solve food security? There's a catch Olive Heffernan, New Scientist 5 September 2017

Op Ed: The growing importance of UAE food security
Tariq Al Wahedi,
The National
7 September 2017

The road to zero deforestation food Aditi Sen, Oxfam 7 September 2017

#### **EVENTS & ANNOUNCEMENTS**

Youth Ag-Summit 9-13 October 2017 Brussels, Belgium 3rd International Conference on Global Food Security 3-6 December 2017 Cape Town, South Africa

#### **HEALTH SECURITY**



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#### **NEWS & COMMENTARIES**

Re-balancing ASEAN integration: Medical tourism vs. migrant health

Chan Chee Khoon, Myanmar Times 14 August 2017

Mosquito-Borne infectious diseases: Crafting an Asian solution

Benjamin Rolfe, Asian Scientist Newsroom 18 August 2017

Mapping attacks on women and children's healthcare in Syria

Alessandria Masi, Tomas Pfeffer, Ella Pfeffer, Syria Deeply 22 August 2017 India's public health system in crisis: Too many patients, not enough doctors

Sanchita Sharma, Hindustan Times 29 August 2017

The world needs to invest in childhood nutrition to ensure a healthy future

Yvonne Chaka Chaka, Devex

1 September 2017

Hurricane Harvey's public health nightmare

Van R. Newkirk II, The Atlantic 2 September 2017 Health systems must adapt to rising global temperatures

Dr Poonam Singh, Borneo Bulletin

3 September 2017

Rouhanicare: Iranian president's unsung domestic success

Saeed Kamali Dehghan, The Guardian 4 September 2017

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Same-Same but different: Reforming the World Health Organisation in the age of public scrutiny and global complexity

Tine Hanrieder, and Adam Kamradt-Scott Global Health Governance Vol 11, No. 1 2017 How drug control policy and practice undermine access to controlled medicines.

Naomi Burke-Shyne et al., Health and Human Rights Journal Vol 19, No. 1 2017

#### **EVENTS & ANNOUNCEMENTS**

**World Health Summit 2017** 

15-17 October 2017 Berlin, Germany Fourth Global Forum on Human Resources for Health

13-17 November 2017 Dublin, Ireland

#### PEACE, HUMAN SECURITY AND DEVELOPMENT

#### **NEWS AND COMMENTARIES**

Trump sows confusion by rejecting idea of North Korea talks

The Washington Post 30 August 2017

Radicalisation of the female worker Tamara Nair and Alan

Chong, RSIS Commentaries 31 August 2017 China and India: A lesson in conflict resolution

The Diplomat
1 September 2017

A state-led massacre triggers an exodus of Rohingyas from Myanmar

The Economist
7 September 2017



Courtesy of Flickr account of US Army Africa and used under a creative commons license.

North Korea's provocations leave Japan, allies short on options The Japan Times

8 September 2017

Fake news images add fuel to fire in Myanmar, after more than 400 deaths

The Guardian 5 September 2017

'And then they exploded': How Rohingya insurgents built support for assault

Reuters

7 September 2017

Can war games help us avoid real-world conflict? **BBC News** 

7 September 2017

Yemenis fight for survival in country on the brink of famine Financial Times

7 September 2017

#### **SELECTED PUBLICATIONS**

Double-edged sword: Vigilantes in African counter-insurgencies International Crisis Group 2017

Alliances, affiliations and agendas of armed factions and politico-military groups in the Central **African Republic** The Enough Project 2017

#### **EVENTS & ANNOUNCEMENTS**

Istanbul Human Securitv Conference 18-20 October 2018 Istanbul, Turkey

10th IEEE International **Conference on Cyber** Conflict 29 May - 1 June 2018 Tallinn, Estonia

#### TRANSNATIONAL CRIME



Courtesy of Flickr account of George C. Marshall European Center for Security Studies and used under a creative commons license.

India, Japan resolve to boost ties in cyberspace sector **ETTelecom** 

19 August 2017

Big data analytics Flashes a 'red alert' on human trafficking in In-

Datanami 24 August 2017 Illegal timber logging threatening Ghana's water sources BusinessGhana 25 August 2017

Burundi leadership answerable for crimes against humanity: U.N. Reuters

04 September 2017

#### **NEWS & COMMENTARIES**

Thai poachers hunt more than just Animals, they're also after rare

Yahoo News 06 August 2017

UK named as world's largest legal ivory exporter

The Guardian 10 August 2017 Philippines war on drugs and crime intensifies, at least 58 killed in three days Channel NewsAsia 17 Aug 2017

**Security Council targets** weapons for terrorists VOA News

18 August 2017

#### **SELECTED PUBLICATIONS**

**Trafficking in persons** from Cambodia, Lao **PDR** and Myanmar to Thailand

United Nations Office on Drugs and Crime (UNODC) and the Thailand Institute of Justice (TIJ) August 2017

The terror-crime nexus: **How international** groups of criminals and militants team up to move money around the world

Douglas Farah, Finance & Development Vol. 54, No. 3 September 2017

#### **EVENTS & ANNOUNCEMENTS**

EC3 - ENISA IOT Security Conference

18 - 19 October 2017 KK Den Haag, Netherlands 6th Asia Pacific Summit on Anti-Corruption Compliance and Risk Management

31 October - 1 November 2017

Pan Pacific Orchard, Singapore

#### **HUMANITARIAN ASSISTANCE AND DISASTER RELIEF**



Courtesy of Flickr account The U.S. Army and used under a creative commons license.

#### **SELECTED PUBLICATIONS**

Invisible wounds: The impact of six years of war on the mental health of Syria's children
Save the Children
2017

Global agenda: The future of humanitarian response
World Economic Forum 2017

#### **NEWS & COMMENTARIES**

Wider role for Asean disaster centre Danson Cheong, The Straits Times 19 August 2017

Worst floods to hit South Asia in decade expose poor planning The Straits Times 3 September 2017

Best intentions: When disaster relief brings anything but relief CBS News 3 September 2017

Hurricane Harvey proved we need more flood insurance competition Ari Blask & Ike Brannon.

5 September 2017

TIME

Malaysia ready to provide temporary shelter for Rohingya fleeing violence

New York Times

New York Times 8 September 2017

370,000 Rohingya Muslims have fled Myanmar to safety in Bangladesh in face of 'textbook' ethnic cleansing The Straits Times

The Straits Times
12 September 2017

The Humanitarian access paradox: Data security in contested settings

Martin Searle,

RSIS Commentary

12 September 2017

#### **EVENTS & ANNOUNCEMENTS**

The Mindanao Conflict: Challenges and Prospects for Peace 18 September 2017 Singapore Dealing with Disasters Conference 2017 19-22 September 2017 Durham, United Kingdom

#### **WATER SECURITY**

#### **NEWS AND COMMENTARIES**

How climate change is already disrupting lives in Vietnam's Mekong Delta Robyn Wilson, The Ecologist 18 August 2017

The poverty of simple answers on Mekong hydropower Paul Wyroll et al, Asia & the Pacific Policy Society 18 August 2017

Industry voices— Gold: The IoT is providing water security to a thirsty planet Jack Gold, Fierce Wireless 31 August 2017 Mumbai floods: What happens when cities sacrifice ecology for development Harini Nagendra, The Conversation 2 September 2017

Mekong countries, RoK step up cooperation Vietnam News Agency 5 September 2017

China's 'sponge cities' aim to re-use 70% of rainwater – here's how Asit Biswas and Kris Hartley, Eco-Business 8 September 2017



Courtesy of Flickr account of Abdul Rahman and used under a creative commons license.

#### **SELECTED PUBLICATIONS**

Beyond scarcity: Waters in the Middle East and North Africa
World Bank
2017

Using transboundary environmental security to manage the Mekong River: China and South-East Asian Countries R. Edward Grumbine, International Journal of Water Resources Development 2017

#### **EVENTS & ANNOUNCEMENTS**

Eighth International Workshop on Hydro-Hegemony 24-25 October 2017 London, UK

Call for Papers: 1st International Conference on Water Security
15 December 2017
Toronto, Canada