




## PROF. EMERITUS DATO' DR. CHAN NGAI WENG

Geography Section  
School of Humanities

 [nwchan@usm.my](mailto:nwchan@usm.my)

 04-6533829

## BIOGRAPHY

Chan Ngai Weng is a Professor of Physical Geography at the School of Humanities, Universiti Sains Malaysia (USM), specializing in Climatology, Water Resources and Flood Disaster Management. He received his Bachelor of Arts (Hons.) (Geography) (Upper 2<sup>nd</sup> Class) 1977 and a Master of Arts (Climatology and Meteorology) 1981, both from the University of Malaya, followed by a Doctor of Philosophy (Flood Management) from Middlesex University, United Kingdom (1992-1995). He served USM as a Lecturer (1986-1991), Associate Professor (1996- 2001), Professor (2001-2014) and Contract Professor (2015-2023). His work is largely focused on climatology, water resources management, flood hazard management and community engagement related to these focal areas. He was the former Chairman of the Geography Section (1988-1990) and former Deputy Dean of Industry and Community Networks of the USM School of Humanities (2013-2015). In the international arena, he was a Visiting Professor at the University of Memphis USA (2000-2001) and at the Asian Institute of Technology, Thailand (2007- 2008). He was also appointed as a Visiting Lecturer at Yokohama City University (2021). He was awarded the Certificate of Outstanding Service in USM 3 times in 1995, 2000 and 2011, the Community Service Award (AKM) in 2012 and the Outstanding Research Figure of the School of Humanities in 2007. In terms of professional services he has held various professional appointments as follows: Director of The International Emergency Management Society (1997-2001); Visiting Academic, Middlesex University, UK (1998-2022); Member of the Executive Council of the International Water Resources Association (IWRA) (2010-2012); Vice-President of the International Water Resources Association (IWRA) (2013- 2015); and President, Water Watch Penang (1997-Present). In terms of research and projects, he has conducted more than 20 international projects and 60 national projects. He has published 166 papers in high quality refereed journals and presented more than 500 papers in conferences, seminars and workshops, including many as Keynote Speakers, Panelists or Invited Speakers. He is also involved in consulting activities and has completed more than 29 consulting projects. He firmly believes that academic research should ultimately benefit society. Hence, he is very passionate and active in community engagement and Non-Government Organisation (NGO) work. As a result of all his work and contributions in academia and society, he has received various awards and recognition from various parties as follows: Pingat Jasa Masyarakat (PKT) Medal 2005; Darjah Johan Negeri (DJN) Medal 2009; "Asia Water Management Excellence Awards 2010; Community Service Award (AKM) 2012; Vietnam National University's Sustainable Development and Sustainable Cities Award (2016); Recognition as a Top 2 % World Scientist by Stanford University four years in a row for 2020, 2021, 2022, 2023; and the "Darjah Setia Pangkuan Negeri (DSPN) 2023" Award by the Penang State Government. As a recognition of his excellence as an academician, he was awarded the title of Emeritus Professor by USM in 2024. Due to his passion and contributions in the water management arena, he is often referred to as "The Waterman".

Award by the Penang State Government. As a recognition of his excellence as an academician, he was awarded the title of Emeritus Professor by USM in 2024. Due to his passion and contributions in the water management arena, he is often referred to as "The Waterman".

## AREAS OF EXPERTISE

---

- **CLIMATOLOGY**
- **WATER RESOURCES MANAGEMENT**
- **FLOOD HAZARD MANAGEMENT**

## ACADEMIC QUALIFICATION

---

- **PHD (MIDDLESEX UNIVERSITY) (1995), (Geography)**  
Middlesex University UK (MU)
- **MA (UM) (1981), (Climatology & Meteorology)**  
Universiti Malaya (UM)
- **BA (HONS) (UM) (1977), (Geography)**  
Universiti Malaya (UM)

## ADMINISTRATIVE DUTIES

---

- **DEPUTY DEAN OF INDUSTRY AND COMMUNITY NETWORKS (2013-2015).**
- 2013 - 2015
- **CHAIRMAN OF GEOGROHY SECTION**
- 1988 – 1990

## MEMBERSHIPS

---

- **VICE PRESIDENT, INTERNATIONAL WATER RESOURCES ASSOCIATION (IWRA)**  
2013-2015 (International)
- **EXECUTIVE BOARD MEMBER, INTERNATIONAL WATER RESOURCES ASSOCIATION (IWRA)**  
2010–2012 (International)
- **MEMBER, INTERNATIONAL WATER RESOURCES ASSOCIATION (IWRA)**  
2010-2023 (International)
- **MEMBER, INTERNATIONAL WATER ASSOCIATION**  
2009-2023 (International)
- **MEMBER, INTERNATIONAL ASSOCIATION FOR HYDRO-ENVIRONMENT ENGINEERING AND RESEARCH**  
2015-2017 (International)
- **DIRECTOR (MEMBERSHIP SECTION), THE INTERNATIONAL EMERGENCY MANAGEMENT SOCIETY**  
1997– 2001 (International)

- **MEMBER, INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES**  
1997- 2000 (International)
- **MEMBER, ASSOCIATION OF AMERICAN GEOGRAPHERS**  
2001-2022 (International)
- \* **MEMBER, ASSOCIATION OF AMERICAN GEOGRAPHERS (SOUTHEASTERN DIVISION)**  
2001– 2002 (International)
- \* **MEMBER, THE INSTITUTE OF BRITISH GEOGRAPHERS**  
1992– 1995 (International)
- **MEMBER, BRITISH HYDROLOGICAL SOCIETY**  
1992 – 1995 (International)
- **MEMBER, ROYAL GEOGRAPHICAL SOCIETY**  
1992– 1995 (International)
- \* **MEMBER, NATURAL HAZARDS SOCIETY**  
1992– 1995 (International)
- \* **COMMITTEE MEMBER, GEOGRAPHY ASSOCIATION OF MALAYSIA (PERSATUAN GEOGRAFI MALAYSIA)**
- **VICE-CHAIRPERSON, MALAYSIAN WATER PARTNERSHIP**  
2011-2013 (National)
- \* **COMMITTEE MEMBER, NATIONAL GEOGRAPHY ASSOCIATION OF MALAYSIA**  
2002– 2006 (National)
- \* **COMMITTEE MEMBER, MALAYSIAN INVENTION & DESIGN SOCIETY (MINDS) - PENANG CHAPTER**  
2002-2005 (International)
- \* **MEMBER, MALAYSIAN NATIONAL COMMITTEE ON IRRIGATION AND DRAINAGE (MANCID)**  
2001– Present (National)
- \* **PRESIDENT, MALAYSIAN NATURE SOCIETY, PENANG BRANCH**  
1997– 2000 (National)
- \* **PRESIDENT & LIFE MEMBER, WATER WATCH PENANG (WWP)**  
1997– 2000; 2001-Present (National)
- \* **MEMBER, MALAYSIAN WATER ASSOCIATION (MWA)**  
1997– Present (National)
- \* **MEMBER, MALAYSIAN SCIENTIFIC ASSOCIATION**  
1997– 2020 (National)
- \* **ASSISTANT SECRETARY, NATIONAL GEOGRAPHY ASSOCIATION OF MALAYSIA**  
1989– 1991 (National)
- \* **TREASURER, MALAYSIAN ENVIRONMENTAL NGOs (MENGOs)**  
2015 – 2017 (National)

## AWARDS AND STEWARDSHIP

---

1. **CERTIFICATE FOR SERVICE EXCELLENCE 1995 (SIJIL KHIDMAT CEMERLANG 1995)**  
Universiti Sains Malaysia, 1995 (University)
2. **FULBRIGHT SCHOLAR AWARD 2000-2001**  
Malaysian-American Center for Educational Exchange (MACEE), 2000-2001 (International)
3. **CERTIFICATE FOR SERVICE EXCELLENCE 2000 (SIJIL KHIDMAT CEMERLANG 2000)**  
Universiti Sains Malaysia, 2000 (University)
4. **MALAYSIAN EXCHANGE RESEARCHER FOR FY 2002 JSPS-VCC COOPERATIVE PROGRAM (ENVIRONMENTAL SCIENCE, ENGINEERING & ETHICS)**  
Malaysian and Japanese Governments, 2002 (International)
5. **MEDAL FOR OUTSTANDING SERVICE TO THE STATE (PINGAT KELAKUAN TERPUJI) 2005**  
Penang State Government (State)
6. **POST-DOCTORAL RESEARCH FELLOWSHIP (AS VISITING PROFESSOR) UNDER THE CIDA-AIT PARTNERSHIP, SEA-UEM PROJECT AT ASIAN INSTITUTE OF TECHNOLOGY, THAILAND 2006-2007**  
CIDA-AIT Partnership (International)
7. **TOP RESEARCHER OF SCHOOL OF HUMANITIES USM 2007 (TOKOH PENYELIDIKAN PUSAT PENGAJIAN ILMU KEMANUSIAAN USM 2007)**  
School of Humanities USM, 2007 (University)
8. **MERIT OF STATE CHAMPION (DARJAH JOHAN NEGERI) 2009**  
Penang State Government, 2009 (State)
9. **WINNER OF ASIA WATER MANAGEMENT EXCELLENCE AWARDS 2010 INDIVIDUAL CATEGORY (NATIONAL)**  
Asian Water Magazine and the Asiawater Organising Committee (Includes International Water Association, The Malaysian Water Association, Ministry of Energy, Green Technology and Water, Malaysia and MAMB Exhibitions), 2010 (International)
10. **CERTIFICATE FOR SERVICE EXCELLENCE 2011 (SIJIL KHIDMAT CEMERLANG) 2011**  
Universiti Sains Malaysia, 2011 (University)
11. **COMMUNITY SERVICE AWARD 2012 (ANUGERAH KHIDMAT MASYARAKAT (AKM) 2012)**  
Universiti Sains Malaysia, 2012 (University)
12. **AWARD FOR SIGNIFICANT CONTRIBUTION TO SUSTAINABLE URBAN DEVELOPMENT PROGRAMME AND URBAN DEVELOPMENT 2016**  
Vietnam National University, 2016 (International)
13. **ORDER OF THE DEFENDER OF STATE AWARD 2023 (DARJAH SETIA PANGKUAN NEGERI)**  
Penang State Government, 2023 (State)
14. **LISTED AS THE WORLD'S TOP 2 % SCIENTISTS 2020, 2021, 2022 & 2023**  
Stanford University for Citation Impact in a Single Year for 2020, 2021, 2022 & 2023
15. **EMERITUS PROFESSOR AWARD 2024**  
Universiti Sains Malaysia, 2024 (University)

## PUBLICATIONS

### Article in Journal

#### WoS

- Chan, N.W. (1995) Choice and Constraints in Persistent Floodplain Occupance: The Influence of Structural Forces on Residential Location in Peninsular Malaysia. *Disasters* 19 (4), December, 287-307.
- Chan, N.W. and Parker, D.J. (1996) Response to Dynamic Flood hazard Factors in Peninsular Malaysia, *The Geographical Journal* 162 (3), November, 313-325.
- Chan, N.W. (1997) Institutional Arrangements for Flood Hazards in Malaysia: An Evaluation Using the Criteria Approach. *Disasters* 21 (3), 206-222.
- Chan, N.W. (2012) Managing Urban Rivers and Water Quality in Malaysia for Sustainable Water Resources. *International Journal of Water Resources Development* 28 (2), 343-354.
- Ranjan Roy, Ngai Weng Chan, Takehiko Uemura and Hidefumi Imura (2013) The Vision of Agri-Environmental Sustainability in Bangladesh: How the Policies, Strategies and Institutions Delivered? *Journal of Environmental Protection*, 2013, 4:40-51 doi:10.4236/jep.2013.48A2006 Published Online August 2013
- Roy, R. and Chan, N.W. (2014) A Multi-Level Evaluation of Policy Integration of Human Resource Development in Agriculture Sector. *Natural Resources*, 5, 119-129. <http://dx.doi.org/10.4236/nr.2014.54013>
- Roy, R., Chan, N. W. and Rainis, R. (2013) Development of Indicators for Sustainable Rice Farming in Bangladesh: A Case Study with Participative Multi-Stakeholder Involvement, *World Applied Science Journal*, Vol. 22 (5):672-682, 2013.  
DOI:10.5829/idosi.wasj.2013.22.05.2890
- Syafiq Shaharuddin, Ngai Weng Chan, Nor Azazi Zakaria, Aminuddin Ab Ghani, Chun Kiat Chang and Ranjan Roy (2014) Constructed Wetlands as a Natural Resource for Water Quality Improvement in Malaysia. *Natural Resources*, 5, 292-298. doi:10.4236/nr.2014.57027
- Reza Mohammadpour, Syafiq Shaharuddin, Chun Kiat Chang, Nor Azazi Zakaria, Aminuddin Ab Ghani and Ngai Weng Chan (2014) Prediction of water quality index in constructed wetlands using support vector machine. *Environmental Science and Pollution Research*, November 2014 (19 Nov 2014) DOI 10.1007/s11356-014-3806-7. @ Springer-Verlag Berlin Heidelberg 2014
- Fei Zhang, Tashpolat Tiyp, Verner Carl Johnson, Hsiang-te Kung, Jian-li Ding, Qian Sun, Mei Zhou, Ardak Kelimu, Ilyas Nurmuhammat and Ngai Weng Chan (2015) The influence of natural and human factors in the shrinking of the Ebinur Lake, Xinjiang, China, during the 1972–2013 period. *Environmental Monitoring and Assessment* 187: 4128 (Online), Springer International Publishing Switzerland. DOI 10.1007/s10661-014-4128-4
- Roy, R. and Chan, N.W. (2015) Determinants of sustainable irrigated and rainfed rice farming in Bangladesh. *Journal of Agricultural Science and Technology*, 17(6):1421-1435
- Bong, C.H.J., Lau, T.L., A. Ab. Ghani and Chan, N.W.(2016) Sediment deposit thickness and its effect on critical velocity for incipient motion. *Water Science & Technology* Vol 74 Issue 8, Oct 2016, Pages 1876-1884 (Available Online 6 August 2016, wst2016376; DOI:10.2166/wst.2016.376)
- Mohammadpour, R., Shaharuddin, S., Zakaria, N.A., Ab. Ghani, A., Vakili, M. and Chan, N.W. (2016) Prediction of Water Quality Index in Free Surface Constructed Wetlands. *Environmental Earth Sciences*, Vol. 75, No. 139, pp. 1-12, doi: 10.1007/s12665- 015-4905-6.
- Lai, C.H.; Chan, N.W.; Roy, R. (2017) Understanding Public Perception of and Participation in Non-Revenue Water Management in Malaysia to Support Urban Water Policy. *Water* 2017, 9, 26. doi:10.3390/w9010026

- Bakhtyar, B., Fudholi, A., Kabir Hassan, Azam, M., Lim, C.H., Chan, N.W. and Sopian, K. (2017) Review of CO2 price in Europe using feed-in tariff rates. *Renewable and Sustainable Energy Reviews* 69 (2017), 685-691
- Tan, M.L., Ab Latif Ibrahim, Zulkifli Yusop, Chua, V.P. and Chan, N.W. (2017) Climate change impacts under CMIP5 RCP scenarios on water resources of the Kelantan River Basin, Malaysia. *Atmospheric Research* Volume 189, 1 June 2017, Pages 1– 10 (Online) (© 2017 Elsevier B.V, IF 3.377).
- Chan, N.W., Roy, R., Lai, C.H. and Tan, M.L. (2018) Social capital as a vital resource in flood disaster recovery in Malaysia,  
*International Journal of Water Resources Development*, DOI:10.1080/07900627.2018.1467312, 1-20.
- Tan, M.L., Narimah Samat, Chan, N.W. and Roy, R. (2018) Hydro-Meteorological Assessment of Three GPM Satellite Precipitation Products in the Kelantan River Basin, Malaysia, *Remote Sensing*, 10, 1011:, 1-15
- Tan, M.L., Liew, J., Tangang, F.T., Chan, N.W. and Ngai, S.T. (2019) Future hydro-meteorological drought of the Johor River Basin, Malaysia, based on CORDEX-SEA projections. *Hydrological Sciences Journal*, DOI: 10.1080/02626667.2019.1612901
- Tan, M.L., Liew, J., Tangang, F.T., Samat, N., Chan, N.W., Yusop, Z. and Ngai, S.T. (2020) SouthEast Asia Hydro-meteorological drought (SEA-HOT) framework: A case study in the Kelantan River Basin, Malaysia. *Atmospheric Research*, Vol 246, 1 December 2020, 105155. <https://doi.org/10.1016/j.atmosres.2020.105155>
- Roy, R., Gain, A., Hurlbert, M.A., Samat, N., Tan, M.L. and Chan, N.W. (2020) Designing adaptation pathways for flood-affected households in Bangladesh. *Environment Development and Sustainability*, June 2020, DOI: 10.1007/s10668-020-00821-y
- Ariken, M., Zhang, F., Chan, N.W. and Kung, H.T. (2021) Coupling coordination analysis and spatio-temporal heterogeneity between urbanization and eco-environment along the Silk Road Economic Belt in China. *Ecological Indicators* 121 (2021) 107014.
- Wang, Z., Zhang, F., Zhang, X, Chan, N.W., Kung, H.T., Ariken, M., Zhou, X. And Wang, Y. (2021) Regional suitability prediction of soil salinization based on remote-sensing derivatives and optimal spectral index. *Science of the Total Environment* 775 (2021) 145807. ISSN 0048-9697, ISI, IF 6.551, Q1. <https://doi.org/10.1016/j.scitotenv.2021.145807> 0048-9697/© 2021 Elsevier B.V.
- Zhang, X., Chan, N.W., Pan, B., Ge, X., Yang, H. (2021) Mapping flood by the object-based method using backscattering coefficient and interference coherence of Sentinel-1 time series, *Science of The Total Environment*, Volume 794, 2021, 148388, ISSN 0048- 9697, <https://doi.org/10.1016/j.scitotenv.2021.148388>.
- Tahouri J., Sadiki A., Karrat L., Johnson V.C., Chan N.W., Fei Z. & Kung H.T. (2021) Using a modified PAP/RAC model and GIS- for mapping water erosion and causal risk factors: Case study of the Asfalou watershed, Morocco, *International Soil and Water Conservation Research* (2021),doi: <https://doi.org/10.1016/j.iswcr.2021.07.003> (ISSN 2095-6339; EISSN2589-059X
- Mohd Afiq Harun, Aminuddin Ab. Ghani, Reza Mohammadpour and Ngai Weng Chan (2021) GEP- and MLR-based equations for stable channel analysis. *Journal of Hydroinformatics* Vol 00 No 0, 1 doi: 10.2166/hydro.2021.047
- Airiken, M., Zhang, F., Chan, N.W. and Kung, H.T. (2022) Assessment of spatial and temporal ecological environment quality under land use change of urban agglomeration in the North Slope of Tianshan, China. *Environmental Science and Pollution Research* (2022) 29:12282–12299 (<https://doi.org/10.1007/s11356-021-16579-3>)
- Chen, D., Zhang, F., Tan, M.L., Chan, N.W., Shi, J., Liu, C. and Wang, W. (2022) Improved Na<sup>+</sup> estimation from hyperspectral data of saline vegetation by machine learning. *Computers and Electronics in Agriculture* 196 (2022) 106862 (<https://doi.org/10.1016/j.compag.2022.106862>)
- Tahouri, J., Sadiki, A., Karrat, L., Johnson, V.C., Chan, N.W., Zhang, F., and Kung, H.T. (2022) Using a modified PAP/RAC model and GIS-for mapping water erosion and causal risk factors: Case study of the Asfalou watershed, Morocco. *International Soil and Water Conservation Research* 10 (2022) 254-272

- Tew, Y.L., Tan, M.L., Samat, N., Chan, N.W., Mahamud, M.A., Sabjan, M.A., Lee, L.K., See, K.F. and Seow, T.W. (2022)
- Comparison of three waterindices for Tropical Aquaculture Ponds Extraction using Google Earth Engine, *Sains Malaysiana*, 51
- (2) (2022) 369-378.
- Cai, Y., Zhang F., Duan, P., Jim, C.Y., Chan, N.W., Shi, J., Liu, C., Wang, J., Bahtebay, J. and Ma, X. (2022) Vegetation cover changes in China induced by ecological restoration-protection projects and land-use changes from 2000 to 2020. *Catena* 217 (2022) 106530
- Zhang, F., Ju, S., Chan, N.W., Ariken, M., Tan, M.L., Yushanjiang, A., and Wang, Y. (2022) Coupled analysis of new urbanization quality (NUQ) and eco-environmental carrying capacity (EECC) of prefecture-level and above cities in China during 2003–2016, *Environment, Development and Sustainability*, 24:, 8008-8038
- Tan, M.L., Zhang, F., Chan, J.C.D., Hwa, Y.K., Shaharudin, S.M., Chan, N.W., and Rahim, A.A. (2022) Spatio-temporal analysis of precipitation, temperature and drought from 1985 to 2020 in Penang, Malaysia, *Water Supply*, 22/5:, 4757–4768
- Zhang, F., Chen, Y., Wang, W., Jim, C.Y., Zhang, Z., Tan, M.L., Liu, J., Chan, N.W., Wang, D., and Rahman, H.A. (2022) Impact of land-use/land-cover and landscape pattern on seasonal in-stream water quality in small watersheds, *Journal of Cleaner Production*, 357. 131907, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2022.131907>.
- Wang, J., Zhang, F., Lim, C.Y., Chan, N.W., Johnson, V.C., Liu, C., Duan, P., and Bahtebay, J. (2022) Spatio-temporal variations and drivers of ecological carrying capacity in a typical mountain-oasis-desert area, Xinjiang, China, *Ecological Engineering*, 180, 106672, ISSN 0925-8574, <https://doi.org/10.1016/j.ecoleng.2022.106672>.
- Liu, C., Zhang, F., Wang, X., Chan, N.W., Rahman, H.A., Yang, S., and Tan, M.L. (2022) Assessing the factors influencing water quality using environment water quality index and partial least squares structural equation model in the Ebinur Lake Watershed, Xinjiang, China, *Environmental Science and Pollution Research*, 29:, 29033–29048
- Zhang, F., Wang, Y., Jim, C.Y., Chan, N.W., Tan, M.L., Kung, H.T., Shi, J., Li, X. and He, X. (2023) Analysis of Urban Expansion and Human–Land Coordination of Oasis Town Groups in the Core Area of Silk Road Economic Belt, China. *Land* **2023**, 12, 224. <https://doi.org/10.3390/land12010224>
- Zhang, F., Duan, P., Jim, C.Y., Johnson, V.C., Liu, C., Chan, N.W., Tan, M.L., Kung, H.T., Shi, J., and Wang, W. (2023) An Advanced Spatiotemporal Fusion Model for Suspended Particulate Matter Monitoring in an Intermontane Lake. *Remote Sens.* **2023**, 15, 1204. <https://doi.org/10.3390/rs15051204>
- Zhang, F., Li, X., Zhou, X., Chan, N.W., Tan, M.L., Kung, H.T., and Shi, J. (2023) Retrieval of soil salinity based on multi-source remote sensing data and differential transformation technology, *International Journal of Remote Sensing*, 44:4, 1348-1368, DOI: 10.1080/01431161.2023.2179900
- Ran, H., Zhang, F., Chan, N.W., Tan, M.L., Kung, H.T. and Shi, J. (2023) "New Composite Nighttime Light Index (NCNTL): A New Index for Urbanization Evaluation Research," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, doi: 10.1109/JSTARS.2023.3258754
- Guo, L., Zhang, F., Chan, N.W., Tan, M.L., Kung, H.T. and Zhang, M. (2023) Spatiotemporal variability of photosynthetic and non-photosynthetic vegetation under climate change in arid and semiarid regions in China, *International Journal of Remote Sensing*, 44:12, 3837-3860, DOI: 10.1080/01431161.2023.2229496
- Samat, N., Goh, K.H., See, K.F., Ibrahim, R.A., Chan, N.W., Tan, M.L., Lee, L.K., Seow, T.W., Sabjan, M.A. (2023) A meta- analysis of aquaculture technical efficiency studies. *Rev Aquac.* 2023: 1–21

- Li, Z., Zhang, F., Shi, J., Chan, N.W., Tan, M.L., Kung, H.T., Liu, C., Cheng, C., Cai, Y., Wang, W. And Li, X. (2023) Remote sensing for chromophoric dissolved organic matter (CDOM) monitoring research 2003–2022: A bibliometric analysis based on the web of science core database, *Marine Pollution Bulletin*, Volume 196, 2023, 115653, ISSN 0025-326X, [\https://doi.org/10.1016/j.marpolbul.2023.115653](https://doi.org/10.1016/j.marpolbul.2023.115653) (<https://www.sciencedirect.com/science/article/pii/S0025326X23010883>)
- Zhang, M., Zhang, F., Guo, L., Dong, P., Cheng, C., Kumar, P., Johnson, B.A., Chan, N.W. and Shi, J. (2023) Contributions of climate change and human activities to grassland degradation and improvement from 2001 to 2020 in Zhaosu County, China. *Journal of Environmental Management* 348 (2023) 119465
- Cao, N., Zhang, F., Liu, C., Chan, N.W., Tan, M.L., Shi, J., Lin, X. (2023) Spatio-temporal analysis of colored dissolved organic matter over Ebinur Lake in Xinjiang, China, *Ecological Informatics*, Volume 78, 2023, 102339, ISSN 1574-9541, <https://doi.org/10.1016/j.ecoinf.2023.102339>
- Wang, P.; Zhou, J.; Jin, X.; Shi, J.; Chan, N.W.; Tan, M.L.; Lin, X.; Ma, X.; Lin, X.; Zheng, K.; et al. (2024) The Impact of Offshore Photovoltaic Utilization on Resources and Environment Using Spatial Information Technology. *J. Mar. Sci. Eng.* 2024, 12, 837. <https://doi.org/10.3390/jmse12050837>
- He, X., Zhang, F., Jim, C.Y., Chan, N.W., Tan, M.L. and Shi, J. (2024) A new method to extract coal-covered area in open-pit mine based on remote sensing, *International Journal of Remote Sensing*, 45:17, 5901-5916, DOI: 10.1080/01431161.2024.2382846
- Guo, L., Zhang, F., Chan, N.W., Shi, J., Tan, M.L., Kung, H.T., Zhang, M., Qiao, Q. (2024) Interactions of climate, topography, and soil factors can enhance the effect of a single factor on spring phenology in the arid/semi-arid grasslands of China, *Journal of Cleaner Production*, 2024, 143556, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2024.143556> (<https://www.sciencedirect.com/science/article/pii/S0959652624030051>)
- Samat, N., Goh, K.H., See, K.F., Ibrahim, R.A., Chan, N.W., Tan, M.L., Lee, L.K., Seow, T.W. and Sabjan, M.A. (2024) A meta- analysis of aquaculture technical efficiency studies. *Reviews in Aquaculture*. Doi: 10.1111/raq.12846
- Song, J., He, X., Zhang, F., Ma, X., Jim, C.Y., Johnson, B.A. and Chan, N.W. (2024) Analyzing and predicting LUCC and carbon- storage changes in Xinjiang’s arid ecosystems under the carbon neutrality goal. *Remote Sens.* 2024, 16(23), 4439; <https://doi.org/10.3390/rs16234439>
- Wu, Y., Liu, C., Zhang, F., Li, M., Chan, N.W., Oke, S.A., Ma, X., Wei, L. (2024) Long-term dramatic spatial and temporal changes in the watershed areas of multiple types of lakes and reservoirs in Xinjiang, China, *Ecological Indicators*, Volume 169, 2024, 112885, ISSN 1470-160X, <https://doi.org/10.1016/j.ecolind.2024.112885>. (<https://www.sciencedirect.com/science/article/pii/S1470160X24013426>)

## ESCI

- Chan, N.W. (1996) Risk, Exposure and Vulnerability to Flood Hazards in a Rapidly Developing Country: The Case of Peninsular Malaysia. *Akademika* Number 49, July 1996, 107-136.
- Sathiamurthy, E., Goh, K.C. and Chan, N.W. (2007) Loss of Storage Areas due to Future Urbanization at Upper Rambai River and its Hydrological Impact on Rambai Valley, Penang, Peninsular Malaysia. *Journal of Physical Science*, Vol. 18 (2), 59-79, 2007.



**ERA**

- Roy, R., Chan, N. W. and Rainis, R. (2013) "Development of an Empirical Model of Sustainable Rice Farming: A Case Study from Three Rice-Growing Ecosystems in Bangladesh," *American-Eurasian Journal of Agricultural & Environmental Sciences*, Vol. 13 (4): 449-460, 2013. DOI:10.5829/idosi.ajeaes.2013.13.04.1946
- Roy, R., Lai, C.H., Paul Ofei-Manu and Chan, N.W. (2015) Analysing temporal changes and sustainability of of rainfed "Aus Rice" production systems. *International Journal of Society System Science*, 2015 Vol.7 No.1, pp.47-67

**SCOPUS**

- Chan, N.W. (1995) Flood Disaster Management in Malaysia: An Evaluation of the Effectiveness of Government Resettlement Schemes. *Disaster Prevention and Management: An International Journal* 4 (4), 22-9.
- Chan, N.W. (1995) A Geographical Perspective of Flood Hazard Creation and Perpetuation in Peninsular Malaysia. *Kajian Malaysia*, XIII No. 2, Dec., 20-46.
- Abd. Latif Ibrahim and Chan, N.W. (1995) Pola Min Hujan Tahunan, Musiman dan Bulanan di Negeri-Negeri Barat Laut Semenanjung Malaysia: Satu Analisis Statistik. *Jurnal Kemanusiaan*, 2, December, 95-116.
- Chan, N.W. (1997) Increasing Flood Risk in Malaysia: Causes and Solutions. *Disaster Prevention and Management: An International Journal* 6 (2), 72-86.
- Chan, N.W. (1997) Increasing Flood Risk in Malaysia: Causes and Solutions. *Disaster Prevention and Management: An International Journal* 6 (2), 72-86.
- Chan, N.W. (1997) Strategi-Strategi Pengurusan Bencana Banjir di Semenanjung Malaysia: Satu Penilaian. *Jurnal Kemanusiaan* 4, October, 93-112.
- Chan, N.W. and Wan Ruslan Ismail (1997) Impak Manusia Terhadap Unsur-Unsur Kitaran Hidrologi Di Malaysia. *Ilmu Alam* 23, May, 41 - 58.
- Chan, N.W. (1998) Responding to Landslide Hazards in Rapidly Developing Malaysia: A Case of Economics Versus Environmental Protection. *Disaster Prevention and Management: An International Journal* 7 (1), 14 - 27.
- Chan, N.W. (1998) Environmental Hazards Associated With Hill Land Development in Penang Island, Malaysia: Some Recommendations on Effective Management. *Disaster Prevention and Management: An International Journal* 7 (4), 305-318.
- Liu, P.S. and Chan, N.W. (2003) The Malaysian flood hazard management program. *Int. J. Emergency Management*, Vol. 1 No. 3, 2003, 205-214.
- Chan, N.W. (2005) Sustainable Management of Rivers in Malaysia: Involving All Stakeholders. *Intl. J. River Basin Management* Vol 3, No 3 (2005), pp 147-162.
- Tan, S.E., Wan Ruslan Ismail and Chan, N.W. (2007) Kesedaran Kebersihan Alam Sekitar dan Tabiat Makan di Luar Penduduk Pulau Pinang. *Jurnal Kemanusiaan* Vol. 14, October 2007, 143-166.
- Tan, S.E., Wan Ruslan Ismail and Chan, N.W. (2007) Environmental Cleanliness Awareness and Eating Out Behaviour of the People of Pulau Pinang. Research Notes. *Jurnal Ilmu Kemanusiaan*, Vol. 14, October 2007, 139-160.
- Barrow, C.J., Chan, N.W. and Tarmiji Masron (2008) "Evolving more sustainable sustainable agriculture in the Cameron Highlands, Malaysia" *International Journal of Agricultural Resources Governance and Ecology (IJARGE)* Volume 7, No. 6, 2008, 450-468.
- Chan, N.W. (2006) A Comparative Study of Water Resources Usage by Households in Georgetown - Malaysia and Pattaya - Thailand.
- *Iranian Journal of Environmental Health Science & Engineering* 2006, Vol. 3, No. 4, 223-228.

- Chan, N.W. (2009) Issues and Challenges in Water Governance in Malaysia. *Iranian Journal of Environmental Health Science & Engineering* 2009, Vol. 6, No. 3, 143-152.
- Barrow, C. J., Chan, N.W. and Masron, T. B. (2010) Farming and Other Stakeholders in a Tropical Highland: Towards Less Environmentally Damaging and More Sustainable Practices. *Journal of Sustainable Agriculture*, 1540-7578, Volume 34, Issue 4, 2010, Pages 365 – 388.
- Ang, S.C. and Chan, N.W. (2010) Tourist Characteristics at Tabing Lick. *World Applied Sciences Journal* **10** (10) 1153-1159, 2010, IDOSI Publications [ISSN / E-ISSN: 1818-4952 / 1991-6426]
- Hong, C.W. and Chan, N.W. (2010) Strengths-Weaknesses-Opportunities-Threats (SWOT) Analysis of Penang National Park for Strategic Ecotourism Management. *World Applied Sciences Journal* **10** (Special Issue on Tourism & Hospitality), 136-145, 2010, IDOSI Publications [ISSN / E-ISSN: 1818-4952 / 1991-6426]
- Azreen Rozainee Abdullah, Chan, N.W. and Ahmad Puad Mat Som (2011) The Potentials and Perils of Ecotourism in Belum Temengor Forest Complex. *World Applied Sciences Journal* **12** (Special Issue on Tourism & Hospitality), 1-9. IDOSI Publications [ISSN / E-ISSN: 1818-4952 / 1991-6426]
- Roy, R. and Chan, N.W. (2012) An assessment of agricultural sustainability indicators in Bangladesh: review and synthesis,  
  - *Environmentalist* 32(1):99-110 ISSN0251-1088, DOI 10.1007/s10669-011-9364-3, 99-110
- Roy R, Chan, N.W. and Rainis, R (2014) Rice farming sustainability assessment in Bangladesh. *Sustainability Science*, 9:31-44. doi: 10.1007/s11625-013-0234-4.
- Suhaimi Abdul-Talib, Chia-Chay Tay, Nor-Azazi Zakaria, Aminuddin Ab-Ghani, Lariyah Mohd-Sidek and Ngai-Weng Chan (2014) Water and Environmental Engineering: Embracing Multi-Disciplinary Approach Through Advanced and Integrated Technologies for Sustainability. *Journal of Asian Scientific Research* 4 (4), 194-206 [ISSN 2223-1331].
- Roy, R., Chan, N.W. and Quazi Nasim Ahmed (2014) A Delphi study to determine sustainability factors: the case of rice farming in Bangladesh. *Journal of Sustainability Science and Management*, 9(1):56-68
- Roy, R., Chan, N.W. and Stefano Xenarios (2015) Sustainability of rice production systems: an empirical evaluation to improve policy.  
  - *Environment, Development and Sustainability*. DOI:10.1007/s10668-015-9638-x
- Chan Ngai Weng, Badaruddin Mohamed and Hong Chern Wern (2015) Potentials, Threats and Challenges in Managing Natural Heritage in the Penang National Park. *Asian Journal of Humanities* Vol 23 (2), 47-65
- Alang Othman, Nor Azazi Zakaria, Aminuddin Ab Ghani, Chang, C.K. and Chan, N.W. (2016) Analysis of trends of extreme rainfall events using Mann Kendall test: a case study of Pahang and Kelantan river basins. *Jurnal Teknologi*, 78:6 (2016): 92-99
- Chan, N.W., Roy, R. and Chaffin, B. (2016) Water Governance in Bangladesh: An Evaluation of Institutional and Political Contexts.  
  - *Water* 8(9) MDPI AG, Basel, Switzerland, IF 1.687.
- Tan, M.L., Tan, K.C., Chua, V.P. and Chan, N.W. (2017) Evaluation of TRMM Product for Monitoring Drought in the Kelantan River Basin, Malaysia. *Water* 9 (1), 1-15
- Er, X.Y., Seow, T.W., Chi, K.L., Zaharah Ibrahim and Chan, N.W. (2018) Combined Adsorption and Biological Treatment for Landfill Leachate Management. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences* 50, Issue 1 (2018) 26-31

- Er, X.Y., Seow, T.W., Chi, K.L., Zaharah Ibrahim and Chan, N.W. (2018) Landfile Leachate Management by Using Combined Absorption and Biological Treatment. *Indexed Scopus Proceedings AIP proceedings 2016 0200041 (2018)* <http://doi.org/10.1063/1.5055443>, 1-6.
- Mahamud, M.A., Hidefumi, I., Akio, O., Chan, N.W. and Samat, N. (2018) A strategic partnership in implementing waste-to-energy (WTE) technology in Penang, Malaysia. *Academy of Strategic Management Journal*, Volume 17, Issue 6, 2018, 1-8
- Lai, C.H., Tan, D.T., Chan, N.W. and Nor Azazi Zakaria (2018) Applying a system thinking approach to explore root causes of river pollution: a preliminary study of Pinang River in Penang state, Malaysia. Proceedings of the 21st IAHR-APD Congress 2018, Yogyakarta 2-5 September 2018, Indonesia “Multi-perspective water for sustainable development” ISBN 978-602-71762-7-0
- Chan, N.W., Tan, M.L., Ghani, A.A. and Zakaria, N.A. (2019) Sustainable urban drainage as a viable measure of coping with heat and floods due to climate change. *IOP Conf. Ser.: Earth Environ. Sci.* 257 012013
- Roy, R., Gain, A.K., Samat, N., Hurlbert, M., Tan, M.L. and Chan, N.W. (2019) Resilience of coastal agricultural systems in Bangladesh: Assessment for agroecosystem stewardship strategies. *Ecological Indicators* 106 (2019) 105525.
- Mohammadpour, R., Zainalfikry, M.K., Zakaria, N.A., Ghani, A.A. and Chan, N.W. (2019) Manning's Roughness Coefficient for Ecological Subsurface Channel with Modules, *International Journal of River Basin Management*, DOI:10.1080/15715124.2019.1672704
- Harun M.A., Ghani A.A., Mohammadpour R. and Chan N.W. (2020) Stable channel analysis with sediment transport for rivers in Malaysia: A case study of the Muda, Kurau, and Langat rivers, *International Journal of Sediment Research* Volume 35, Issue 5, October 2020: 455-466. (<https://doi.org/10.1016/j.ijsrc.2020.03.008>).
- Lai, C.H., Tan, D.T., Roy, R., Chan, N.W. and Zakaria, N.A. (2020) Systems thinking approach for analysing non-revenue water management reform in Malaysia. *Water Policy* (2020) 1–16.
- Mohammadpour, R., Zainalfikry, M.K., Zakaria, N.A., Ghani, A.A. and Chan, N.W. (2020) Manning's roughness coefficient for ecological subsurface channel with modules, *International Journal of River Basin Management*, 18:3, 349-361, DOI:10.1080/15715124.2019.1672704
- Zabidi, H.A., Goh, H.W., Chang, C.K., Chan, N.W. and Zakaria, N.A. (2020) A Review of Roof and Pond Rainwater Harvesting Systems for Water Security: The Design, Performance and Way Forward. *Water* 2020, 12, 3163; doi:10.3390/w12113163 (© MDPI; doi:10.3390/w12113163)
- Tan, M.L.; Liang, J.; Samat, N.; Chan, N.W.; Haywood, J.M.; Hodges, K. (2021) Hydrological Extremes and Responses to Climate Change in the Kelantan River Basin, Malaysia, Based on the CMIP6 HighResMIP Experiments. *Water* **2021**, 13(11), 1472; doi:10.3390/w13111472 (Q2)
- Li, X.; Zhang, F.; Chan, N.W.; Shi, J.; Liu, C.; Chen, D. (2022) High Precision Extraction of Surface Water from Complex Terrain in Bosten Lake Basin Based on Water Index and Slope Mask Data. *Water* **2022**, 14, 2809. <https://doi.org/10.3390/w14182809>
- Tan, M.L., Liang, J., Samat, N., Chan, N.W., Haywood, J.M. and Hodges, K (2022) Hydrological Extremes and Responses to Climate Change in the Kelantan River Basin, Malaysia, Based on the CMIP6 HighResMIP Experiments Reprinted from: *Water* 2021, 13, 1472, doi:10.3390/w13111472
- Piratheepa Vipulan, Ngai Weng Chan, Suriati Ghazali and Asyirah Abdul Rahim (2023) Constraints in Developing Ecotourism Based on Protected Areas: A Case Study of Jaffna District, Sri Lanka. *Pertanika J. Soc. Sci. & Hum.* 31 (3): 1179 - 1196 (2023)

## Others

- Chan, N.W. (1981) The Reliability of Rainfall in Relation to Wet Rice Cultivation in Northwest Peninsular Malaysia. *Malaysian Journal of Tropical Geography* 4, December, 14-23.
- Chan, N.W. (1981) Drought Perception and Adjustments in Northwest Peninsular Malaysia. *Malaysian Geographers* 3, 1-11.
- Chan, N.W. (1985) Rainfall Variability in Northwest Peninsular Malaysia. *Malaysian Journal of Tropical Geography* 12, December, 9-19.
- Chan, N.W. (1986) Recent Rainfall Trends in Kedah, Perlis and Pulau Pinang. *Wallaceana* June, 4-5.
- Chan, N.W. (1987) Perception Studies in Geography: A Survey of Farmers' Perception of the Drought Hazard on the Kedah Plain. *Kajian Malaysia* V (1), June, 78-98.
- Chan, N.W. (1988) Bencana Kemarau Di Semenanjung Malaysia: Satu Kajian Tentang Cara-Cara Penyesuaian Petani Padi Sawah. *Ilmu Alam* 17, May, 61-79. (Translation: The Drought Hazard in Peninsular Malaysia: A Survey of Padi Farmers' Ways of Adjustments)
- Chan, N.W. (1990) A Comparative Study of the Mean and Median Rainfall Patterns in Kedah and Perlis. *Kajian Malaysia* VIII (1), June, 1-20.
- Chan, N.W. (1990) Angin Monsun Dan Kemusiman Hujan Di Semenanjung Malaysia. *Perantara* 8 (4), August, 22-26 (Translation: Monsoon Winds and Rainfall Seasonality in Peninsular Malaysia)
- Chan, N.W. (1990) Angin Monsun Dan Reliabiliti Hujan Di Pantai Timur, Semenanjung Malaysia. *Ilmu Alam* 19, 35-52. (Translation: Monsoon Winds and Rainfall Reliability in the East Coast of Peninsular Malaysia)
- Chan, N.W. (1991) Iklim dan Industri Pelancongan di Pulau Pinang: Satu Tinjauan Tentang Persepsi Pelancong-Pelancong Asing Terhadap Faktor Iklim. *Ilmu Alam* 21, May, 79 - 97. (Translation: Climate and the Tourism Industry in Pulau Pinang: An Evaluation of Foreign Tourists' Perception of the Climate Factor)
- Chan, N.W. (1991) The Climate of Penang Island. *Kajian Malaysia* IX(1), June, 62-86.
- Chan N W 1991 Perception, Awareness and Assessment of the Living Environment in Ipoh City: A Preliminary Report. *Akademika* 39, July, 171-191.
- Chan, N.W. (1993) Economic, Social and Health Aspects of Drought in Northwest Peninsular Malaysia and the Role of Public Assistance in Recovery. *The Malaysian Agricultural Journal* 55 (1), 1-24.
- Chan, N.W. (1995) A Contextual Analysis of Flood Hazard Management in Peninsular Malaysia, *Flood Hazard Research Centre Publication* No. 267, Enfield (UK).
- Chan, N.W. (1996) Kejadian Banjir Kilat di Kawasan Bandar-Bandar Besar di Malaysia: Sebab-Sebab Peningkatan Risiko dan Pendedahan Masyarakat Manusia kepada Bahaya Banjir, *Perantara* 14 (3), June, 8-16. (Translation: Incidence of Flash Flooding in Big Cities in Malaysia: Causes of Increasing Risk and Exposure of Human Society to Flood Hazards)
- Abd. Latif Ibrahim and Chan, N.W. (1996) Water Balance Analysis in Relation to Wet Rice Cultivation in the Muda Region of Kedah and Perlis, Malaysia. *Malaysian Agricultural Journal* 55 (2), 34-57.
- Chan, N.W. (1997) Increase in Flood Risk, Exposure and Vulnerability in Penang Island: A Case of Environmental Degradation resulting from Urbanisation and Rapid Economic Development. *Malaysian Journal of Tropical Geography* 28(1), June, 9-20.
- Chan, N.W. (1998) The Role of Public Participation in Averting Environmental Disasters in Malaysia: Some Examples and Observations. *Pendidikan Tinggi - Higher Education* 4, 49-60.

- Chan, N.W. (2000) Pantai Aceh Forest Reserve – Penang’s First State Park? *Malaysian Naturalist* 53 (4), 32-41.
- Chan, N.W. (2000) The Role of Institutions, Organisations and Individuals in Flood Awareness and Education in Malaysia. *Pendidikan Tinggi - Higher Education*, Vol. 5, 25 - 46.
- Chan, N.W. (2000) The Role of Women in Water Conservation in Penang. *Suara Wanita*, Vol. 5 (1), June Issue, 10-11.
- Chan, N.W. (2003) “Menangani Isu-Isu Pengurusan Air Di Malaysia Pada Abad Ke-21 Melalui Pengamatan Dan Pemuliharaan Air”.
- *Kinabalu* 9, 99-118.
- Chan, N.W. (2004) A Critical Review of Malaysia’s Accomplishment on Water Resources Management Under Agenda 21. *Malaysian Journal of Environmental Management* 5 (2004): 55-78. Chan, N.W., Wan Ruslan Ismail and Ab Latif Ibrahim (2004) Environmental Characteristics of Pantai Aceh Forest Reserve, Penang Island, Malaysia. *Journal of Bioscience*, Vol. 15 No. 1, pp101-122.
- Barrow, C.J., Clifton, J., Chan, N.W. and Tan, Y.L. (2005) Sustainable Development in Cameron Highlands, Malaysia. *Malaysian Journal of Environmental Management* 6 (2005): 41-57.
- Chan, N.W. (2006) Water Tariffs and The Poor. *Water Malaysia* Issue No. 12 (January 2006), ISSN:1675-2392, pp 22-23. Sathiamurthy, E. and Chan, N.W. (2006) Hydrodynamic Behaviour Change at Rambai River Outlet, Juru River Basin, Penang.
- *Malaysian Journal of Environmental Management* 7 (2006): 59-75.
- Chan, N.W. (2007) Access to Basic Needs: Water. *Consumer Digest*, Issue 1/2007, 3-12.
- Chan, N.W. and Nitivattananon, V. (2007) The Role of Gender in Domestic Water Conservation in Malaysia. *Malaysian Journal of Environmental Management* 8 (2007): 109-129.
- Chan, N.W. (2007) Wanita Penggerak Kempen Jimat Air di Malaysia. *Penita* No. 2 Series 3/2007, 14-17.
- Barrow, C.J., Chan, N.W. and Tarmiji Bin Masron (2009) Issues and challenges of sustainable agriculture in the Cameron Highlands. In *Malaysian Journal of Environmental Management* 10 (2), 89-114.
- Chan, N.W. (2009) Ecotourism and Environmental Conservation in Small islands in the East Coast of Peninsular Malaysia. In
- *Malaysian Journal of Environmental Management* 10 (2), 53-69.
- Chan, N.W. (2010) Impacts of Human Habitat Development on the Environment – Challenges and the Way Forward. *Malaysian Journal of Environmental Management* 11(2) (2010): 3-20.
- Hong, C.W. and Chan, N.W. (2010) The Potentials, Threats and Challenges in Sustainable Development of Penang National Park.
- *Malaysian Journal of Environmental Management* 11(2) (2010): 95-109.
- Ang, S.C. and Chan, N.W. (2011) Ecotourism as a Tool in Salt Lick Conservation in Northern Peninsular Malaysia. *Malaysian Journal of Environmental Management* 12(1) (2011): 15-22.
- Hong, C.W. and Chan, N.W. (2011) The role of driving force pressure-state-impact-response (DPSIR) Framework for Penang National Park. *Malaysian Journal of Environmental Management* 12(1) (2011): 85-95.
- Azreen Rozainie Abdullah and Chan, N.W. (2011) Ecotourism Activities: Threats in Belum Temenggor Forest Complex?
- *Malaysian Journal of Environmental Management* 12(1) (2011): 97-108.
- Chuah, C.Y., Ong, K.S. and Chan, N.W. (2011) The role of non-governmental organizations (MGOs) in natural heritage conservation: A case study of Ulu Muda Forest Reserve. *Malaysian Journal of Environmental Management* 12(1) (2011): 109-116.
- Chan, N.W. (2011) Challenges in Developing Clan Jetties as Heritage Attractions for Conservation and Tourism in Penang, Malaysia. *Malaysian Journal of Environmental Management* 12(1) (2011): 117-127.
- Tarmiji Masron, Chan, N.W., Mohamad Luthfi Abdul Rahman dan Azmi Arifin (2011) “Peta Budaya Wilayah Utara: Metodologi dan Aplikasi.” *SARI Jurnal Antarabangsa Alam dan Tamadun Melayu* 29 (1): 221-244.

- Chan, N.W. (2011) Addressing Flood Hazards via Environmental Humanities in Malaysia. *Malaysian Journal of Environmental Management* 12(2) (2011): 11-22.
- Chan, N.W. (2012) Water Saving Devices. *Standards Matter* 1(2012), 28-31. ISSN 1985-5117-02.
- Chan, N.W. (2012) Smart Partnerships in Water Efficiency Management Towards a Green Economy with Particular Reference to Malaysia. *IWRA (India) Journal (Half Yearly Technical Journal of Indian Geographical Committee of IWRA)* 1(Issue 1), 4-13. Print ISSN: 2277-1298. Online ISSN: 2277-1301.
- Lai Chee Hui, Chan Ngai Weng and Nor Azazi Zakaria (2013) Non-Revenue Water Management in Malaysia: A Review of Selected Water Service Providers in Malaysia. *Jurnal Geografi* Vol. 1 No. 2, pp 7-16.
- Mohammad Ghazi Bin Hj Ismail, Chan Ngai Weng, Haliza Abdul Rahman and Nor Azazi Zakaria (2013) Freundlich Isotherm Equilibrium Equations in Determining Effectiveness a Low Cost Absorbent to Heavy Metal Removal In Wastewater (Leachate) At Teluk Kitang Landfill, Pengkalan Chepa, Kelantan, Malaysia. *Journal of Geography and Earth Science* 1 (1) June 2013: 1-8 [ISSN: 2078-1156].
- Ang, S.C., Chan, N.W. and Jabil B Mapjabil (2013) Sharing the Common Border. *Procedia – Social and Behavioural Sciences* 91 (2013) 41-47, doi: 10.1016/j.sbspro.2013.08.399 [ISSN: 1877-0428].
- Narimah Samat, Aishah Knight Abd Shattar, Yasmin Sulaiman, Azizah Ab Manan & Chan Ngai Weng (2013) Investigating Geographic Distribution of Colorectal Cancer Cases: An Example from Penang State, Malaysia. *Asian Social Science*; Vol. 9, No. 17; 2013 [ISSN 1911-2017 E-ISSN 1911-2025]
- Lai Chee Hui, Chan Ngai Weng and Phang Wai Leng (2014) Penang River Educational Programme: A Case Study of University Students' Involvement in Community River and Water Management. *International e-Journal of Community & Industry Engagement* Vol.1, No.2, December 2014, 1–6.
- Mohd Zulhalmi Ibrahim, Gusni Saat, Chan Ngai Weng, Jabil Mapjabil, Rosazman Hussin, Mohamad Pirdaus Yusoh (2015) Konsep, segmentasi dan potensi penyelidikan dalam pelancongan memancing di Malaysia. *Geografia - Malaysian Journal of Society and Space* 11 (Issue 12). Penerbit School of Social, Development and Environmental Studies, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, 9 – 22
- Jabil Mapjabil, Chan Ngai Weng, Norizan Md. Nor, Suriati Ghazali, Badariah Ab Rahman, Rosmiza Mohd Zainol, Mazdi Marzuki (2015) Attributes of highland ecotourism in Northern Peninsular Malaysia: A case study of resident knowledge. *Geografia - Malaysian Journal of Society and Space* 11 (Issue 12). Penerbit School of Social, Development and Environmental Studies, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, 42 – 51(Citation Indexed Journal).
- Chiam, S.M., Chan, N.W., Goh, K.C., Seow, T.W., Kek S.L. and Goh, H.H. (2015) A Review of Six Functional Elements Affect the Cost of Solid Waste Management in Malaysia. *International Journal of Conceptions on Management and Social Sciences*, Vol 3 (2), Wairco Journal Publications, 13-17.
- Chan, N. W. (2017) Enhancing environmental sustainability with solutions from the study of environmental humanities. *Journal of Advanced Civil Engineering and Research*, 4:103, 2017 (2550-1933© Ababil Publishers).
- Sim, L.M., Carr, G. and Chan, N.W. (2017) Resolving Water Disputes Via Interstate Co-operation And Stakeholders' Engagement: A Case Study From Muda River Basin. *Advanced Science Letters (ASL)* 23, 9126–9129 (September 2017).
- Ismail, M.G., Chan, N.W., Che Lah, N.F. (2018) Sustainable Management for Flood Loss Reduction: A Case Study of the December 2014 Big Flood in Pahang, *International Journal of Environment, Society and Space*, 6/1:, 34-42.
- Ismail, M.G. and Chan, N.W., (2018), Evaluating the cost benefit through efficiency on Non Revenue Water (NRW) management: a case study at Bechah Tendong, Pasir Mas, Kelantan, Malaysia, *International Journal of Environment, Society and Space*, 6/1:, 57-65

- Mustakim, Nur Syuhada & Ramli, Muhammad Wafi & Chan, Ngai Weng. (2019). Kesedaran komuniti terhadap isu pencemaran sungai di Sungai Pinang, Pulau Pinang. *Malaysian Journal of Society and Space*. 15. 10.17576/geo-2019-1503-03.
- Piratheeparajah, N., Chan, N. W., & Tan, M. L. (2020). Identifying Flood Hazard Potentials Based on Geographical Characteristics in the Jaffna District, Sri Lanka. *GEOGRAFI*, 8(2), 92-109. <https://doi.org/10.37134/geografi.vol8.2.5.2020>
- Norsyuhada Anua, Tan, M.L. and Chan, N.W. (2021) Daya tahan komuniti menghadapi banjir 2014: Kajian kes di Kampung Manek Urai Lama, Kuala Krai, Kelantan. *GEOGRAFIA OnlineTM Malaysian Journal of Society and Space* 17 Issue 1 (196-210) © 2021, e-ISSN 2682-7727 <https://doi.org/10.17576/geo-2021-1701-15>
- Chan, N.W., Mapjabil, J., Samat, N., Tan, M.L., Ghani, A.A. and Zhang, F. (2021) Community Involvement in Urban Water Management: The N Park Resort Condominium Rainfall Harvesting and Water Saving Project in Penang, Malaysia. *Populasi*, Volume 29 Issue 1 2021: 93-107. ISSN 0853-6202 (PRINT), ISSN:2476-941X (ONLINE).
- Rajadran, A., Tan, M.L., Chan, N.W. and Samat, N. (2021) Aquaculture Pond Mapping in Sungai Udang, Penang, Using Google Earth Engine, *Geografi*, 9(2), 86-106. <https://doi.org/10.37134/geografi.vol9.2.5.2021>
- Nagamuthu, P., Tan, M.L., Chan, N.W. and Zhang, F. (2022) Spatio-temporal variability of droughts over the Mullaitivu District in Sri Lanka from 1980 to 2020, *GEOGRAFIA Malaysian Journal of Society and Space*, 18/1:, 15-31.

#### Books

- Chan, N.W., Wan Ruslan Ismail, Aziz Abdul Majid and Abibullah Samsuddin (1994) *Pengantar Geografi*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Chan, N.W. (1995) *Asas Kaji Iklim*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Chan, N.W. (Editor) (1997) *Proceedings of the international conference Meeting Water Challenges in the 21st Century*. Paris: Water Mobilising Programme of the Alliance for a Responsible and United World.
- Mashhor Mansor, Lim, P.E., Seng, C.E., Chan, N.W., Salmah Md Rawi, Ruslan Rainis, Omar Hj Kadir and Tan, E. (1999)
- *Classification of Malaysian Rivers – Volume 4 Kedah River*. Kuala Lumpur: Unit Perundingan Universiti Malaya.
- Mashhor Mansor, Lim, P.E., Seng, C.E., Chan, N.W., Salmah Md Rawi, Ruslan Rainis, Omar Hj Kadir and Tan, E. (1999)
- *Classification of Malaysian Rivers – Volume 9 Penang River*. Kuala Lumpur: Unit Perundingan Universiti Malaya. Chan, N.W. (Editor) (2002) *Rivers: Towards Sustainable Development*. Penang: Penerbit Universiti Sains Malaysia.
- Chan, N.W. (2002) *Pembangunan, Pemandaran dan Peningkatan Bahaya dan Bencana Air di Malaysia: Isu, Pengurusan dan Cabaran*. Penang: Penerbit Universiti Sains Malaysia. (Translation: Development, Urbanisation and Increasing Water Hazards and Disasters in Malaysia: Issues, Management and Challenges)
- Chan, N.W., Hajar Abdul Rahim, Khor, H.T. and Baharulnizam Baharum (Editors) (2003) *Learning About Water – Training Manual*. Penang: Water Watch Penang.
- Chan, L.K., Baharuddin Sulaiman, Chan, N.W., Che Salmah Md Rawi, Darah Ibrahim, Kanda Kumar, Shaida Fariza Sulaiman and Siti Azizah Mohd Noor (Editors) (2003) *Pantai Aceh Forest Reserve: The Case for a State Park*. Pulau Pinang: Penerbit Universiti Sains Malaysia.
- Chan, N.W. (2004) *Managing Water Resources in the 21<sup>st</sup> Century: Involving All Stakeholders Towards Sustainable Water Resources Management in Malaysia*. Bangi: Environmental Management Programme, Centre for Graduate Studies, Universiti Kebangsaan Malaysia.

- Chan, N.W. (Editor) (2004) *Ecotourism: Issues & Challenges*. Penang: School of Humanities, Universiti Sains Malaysia.
- Chan, N.W. (Editor) (2006) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia.
- Chan, N.W. (2006) *Water For Life – A Water Conservation VCD For Schools*. Penang: Water Watch Penang.
- Chan, N.W. (2006) *USM-CETDEM Climate Change Survey. Healthy Campus Series 12*. Penang: Penerbit Universiti Sains Malaysia.
- Chan, N.W. and Bouguerra, L. (Editors) (2007) *World Citizens' Assembly on Water: Towards Global Water Sustainability*. Penang: Water Watch Penang and Alliance for a Responsible, Plural and United World.
- Ab. Latif Ibrahim, Mazlan Hashim, Muhammad Zulkarnain Abdul Rahman and Chan, N.W. (2008) *Atmosfera*. Skudai: Penerbit Universiti Teknologi Malaysia.
- Chan, N.W. (2008) *Iklim dan Cuaca*. School of Humanities, Universiti Sains Malaysia.
- Chan, N.W., Narimah Samat and Jabil Mapjabil (2008) *Teknik-Teknik Dalam Geografi*. School of Humanities, Universiti Sains Malaysia.
- Chan, N.W. and Anisah Lee Abdullah (2008) *Geografi Fizikal*. Penang: School of Humanities, Universiti Sains Malaysia.
- Anisah Lee Abdullah, Wan Ruslan Ismail, Chan, N.W. and Tarmiji Masron (2009) (Editors) *Proceedings of 2<sup>nd</sup> National Conference on Society, Space & Environment 2009: Towards Sustainable Heritage and Future*. Penang: School of Humanities, Universiti Sains Malaysia. In CD Rom.
- Anisah Lee Abdullah, Wan Ruslan Ismail, Chan, N.W. and Tarmiji Masron (2009) (Editors) *Book of Abstracts of 2<sup>nd</sup> National Conference on Society, Space & Environment 2009: Towards Sustainable Heritage and Future*. Penang: School of Humanities, Universiti Sains Malaysia, ISBN 978-983-42017-7-7.
- Jabil Mapjabil, Tuan Pah Rokiah Syed Hussain and Chan, N.W. (Editor) (2015) *Ekosistem Lembangan Saliran Di Malaysia*. Sintok: Universiti Utara Press.
- Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) (2015) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities.
- Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) (2016) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, Yokohama City University.
- Chan, N.W. and Imura, H. (Editors) (2019) *Sustainable Urban Development Program - Makassar 2019*. Penang: Water Watch Penang, Global Cooperation Institute for Sustainable Cities, Yokohama City University, Japan and Universiti Sains Malaysia, ISBN 978-983-41334-5-0.
- Chan, N.W. (2022) (Editor) *Proceedings of 13<sup>th</sup> International Academic Consortium for Sustainable Cities (IACSC) 2022, 12<sup>th</sup> - 13<sup>th</sup> September, Universiti Sains Malaysia, Penang*. Penang: School of Humanities (e-ISSN NO.) 2948
- Zhang, F., Chan, N.W., Li, X. and Wang, X. (Editors) (2023) *Monitoring Lakes Water Based on Multisource Remote Sensing and Novel Modeling Techniques*. Printed Edition of the Special Issue Published in Water. St. Alban-Anlage 66: MDPI. ISBN 978-3- 0365-7495-0 (PDF)



## Chapter in Books

- Chan, N.W. (1993) Chapter 16: Flood Hazard Mitigation in Peninsular Malaysia. In P.A. Merriman and C.W.A. Browitt (eds)
- *Natural Disasters: Protecting Vulnerable Communities*. London: Thomas Telford, 194-209.
- Parker, D.J., Nabiul Islam and Chan, N.W. (1997) Chapter 3: Reducing vulnerability following flood disaster: Issues and practices. In A. Awotona (ed) *Reconstruction After Disaster*. London: Avebury, 23-44.
- Chan, N.W. (1997) Chapter 11: Warnings in the context of flood hazard management in Malaysia. In J W Handmer (ed) *Flood Warning: Issues and Practice in Total System Design*. London: Flood Hazard Research Centre, 115-132.
- Chan, N.W. (1997) Chapter 6: Managing Water Hazards in Malaysia. In N W Chan (ed) *Proceedings of the international conference "Meeting Water Challenges in the 21st Century"*. Paris: Water Mobilising Programme of the Alliance for a Responsible and United World, 55-67.
- Chan, N.W. (1998) Chapter 54 - Flash and monsoon flooding. In Sham Sani (ed) *The Encyclopedia of Malaysia - Volume I Environment*. Singapore: Editions Didier Millet, 112-113.
- Chan, N.W. (1998) Chapter 6 - The physical geography and flooding of Peninsular Malaysia. In A.I. Johnson and C.A. Fernandez- Jauregui (eds) *Hydrology in the Humid Tropic Environment*. Wallingford, IAHS Publ. No. 253, IAHS Press, 303-311.
- Chan, N.W. (1999) Warning and Evacuation Effectiveness in Malaysia. In J. Ingleton (ed) *Natural Disaster Management - IDNDR Commemorative Edition*. Leicester: Tudore Rose, 171-173.
- Chan, N.W. and Parker, D.J. (1999) Aspek Sosio-Ekonomi Bencana Banjir Di Semenanjung Malaysia. In Mohd. Razali Agus and Fashir Noor Sidin (Eds) *Perbandaran dan Perancangan Persekitaran*, Kuala Lumpur: Utusan Publications & Distributors Sdn Bhd, 140-159. (Translation: Socio-economic Aspects of Flooding in Peninsular Malaysia).
- Chan, N.W. (1999) Faktor Paling Signifikan Terhadap Keterukan Subjektif Impak Banjir. In Mohd. Razali Agus and Fashir Noor Sidin (Eds) *Perbandaran dan Perancangan Persekitaran*, Kuala Lumpur: Utusan Publications & Distributors Sdn Bhd, 249-261. (Translation: The Most Significant Factors Affecting the Subjective Severity of Flooding).
- Chan, N.W. (1999) Hujan Asid. In Socio-Economic and Environmental Research Institute (SERI) (1999) *People's Report on Sustainable Indicators for Development in Penang*. Pulau Pinang: Socio-Economic & Environmental Research Institute, 19.
- Chan, N.W. (1999) Kualiti Air Sungai. In Socio-Economic and Environmental Research Institute (SERI) (1999) *People's Report on Sustainable Indicators for Development in Penang*. Pulau Pinang: Socio-Economic & Environmental Research Institute, 34- 35).
- Chan, N.W. (1999) Penggunaan Air dan Penawaran. In Socio-Economic and Environmental Research Institute (SERI) (1999) *People's Report on Sustainable Indicators for Development in Penang*. Pulau Pinang: Socio-Economic & Environmental Research Institute, 42-43.
- Chan, N.W., Morshidi Sirat, Ruslan Rainis, Wan Ruslan Ismail and Ab Latif Ibrahim (1999) Urban Sustainability and the Effects of Rapid Socio-Economic, Industrial and Infrastructure Development in Penang Island. In ISIS Malaysia *Monograph Series on Environment and Development*. Kuala Lumpur: Institute of Strategic and International Studies (ISIS) Malaysia, Chapter 6, 415- 527.
- Chan, N.W. (1999) Chapter 3: Hydrological Features, Land Uses and Socio-Economics. In Mashhor Mansor, Lim, P.E., Seng, C.E., Chan, N.W., Salmah Md Rawi, Ruslan Rainis, Omar Hj Kadir and Tan, E. (Eds) *Classification of Malaysian Rivers – Volume 4 Kedah River*. Kuala Lumpur: Unit Perundingan Universiti Malaya, 8 - 59.
- Chan, N.W. (1999) Chapter 3: Hydrological Features, Land Uses and Socio-Economics. In Mashhor Mansor, Lim, P.E., Seng, C.E., Chan, N.W., Salmah Md Rawi, Ruslan Rainis, Omar Hj Kadir and Tan, E. (Eds) *Classification of Malaysian Rivers – Volume 9 Penang River*. Kuala Lumpur: Unit Perundingan Universiti Malaya, 8 - 51.

- Chan, N.W. (2000) Chapter 29 – Reducing Flood Hazard Exposure and Vulnerability in Peninsular Malaysia. In D J Parker (ed)
- *Floods Volume II*. London: Routledge, 19 - 30.
- Chan, N.W. (2000) Chapter 10: Penang Island: Hill Development and Impacts on the Environment. In T.S. Teh (ed) *Islands in Malaysia: Issues and Challenges*. Kuala Lumpur: University of Malaya, 139-150.
- Chan, N.W. (2000) L'environnement en Malaisie. In E. Sizoo (Ed) *Ce Que Les Mots Ne Disent Pas*. Paris: Editions – Diffusion Charles Leopold Mayer, 20–21, 32-33, 35-36, 44, 50-51, 58.
- Chan, N.W. (2000) Patrimoine, environnement et developpement durable en Malaisie. In B. Boom (Ed) *Les valeurs du Monde*. Versailles: Rencontres de Versailles, 20-23.
- Chan, N.W. (2000) Chapter 6 - Degradation of High Land Areas in Malaysia: Effects on Water Resources. In *Tanah Air Ku: Land Issues in Malaysia*. Penang: Consumers' Association of Penang, 66 - 86.
- Chan, N.W. (2001) Water Conservation and Reuse and Reduction of Water Use. In *Sustainable Management of Water Resources in Malaysia*. Petaling Jaya: Global Environment Centre, 78-92.
- Chan, N.W. (2002) "Rainfall Harvesting: Only One of Many Water Conservation Practices Towards the Evolution of a Water Saving Society". In Elias Ismail and S. Sundaraj (Editors) *Proceedings of the Workshop on Rainfall Harvesting As A Tool for Sustainable Water Supply & Storm-water Management*. Kuala Lumpur: Construction Industry Development Board Malaysia, 11- 26.
- Chan, N.W., Wan Ruslan Ismail and Abdul Latif Ibrahim (2003) *The Geography, Climate and Hydrology of Pantai Acheh Forest Reserve*. In L.K. Chan (Ed) *Pantai Acheh Forest Reserve: The Case for a State Park*. Penang: Penerbit Universiti Sains Malaysia, 38-54.
- Chan, N.W. (2003) Striking A Balance Between Ecotourism and Environmental Protection. In N W Chan (Editor) *Introductory Course on Ecotourism*. Penang: British Council DFID Higher Education Links and School of Humanities, Universiti Sains Malaysia, 21-33.
- Chan, N.W. (2003) Protecting Freshwater Resources. In Malaysian NGO Forum for Rio+10 *NGO Perspectives for Advancing Sustainable Development in Malaysia*. Petaling Jaya: Malaysian NGO Forum for Rio+10, 33.
- Chan, N.W. (2003) Chapter 18 Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources. In CD Rom by Malaysian NGO Forum for Rio+10 Agenda 21 Review Papers. Petaling Jaya: Malaysian NGO Forum for Rio+10.
- Chan, N.W. (2004) *Chapter 3: Sustainable Water Resources Management*. In K.J. Ratnam, Ahmad Farhan Mohd Sadullah and T.W. Sam (Editors) *Research at Universiti Sains Malaysia Vol. 3: Environmental Management and Engineering*. Penang: Penerbit Universiti Sains Malaysia, 16-29.
- Chan, N.W. (2004) Chapter 3: Striking A balance Between Ecotourism and Environmental Protection. In Chan N W (Editor) *Ecotourism: Issues and Challenges*. Penang: School of Humanities, Universiti Sains Malaysia, 21-33.
- Chan, N.W. (2004) Non-Governmental Organisations and Community Participation in Water Resources Management in Malaysia. In Mazlin B Mokhtar, Salmah Zakaria, Low Kwai Sim, Fauzi A Samad and Zalilah Selamat (Editors) *National Dialogue on Effective Water Governance in Malaysia*. Kuala Lumpur: Malaysian Water Partnership, 33-48.
- Chan, N.W. (2004) Water Watch Penang Activities. In Anton A. (Chief Editor) *Integrated Water Resources Management in Malaysia: Experiences and Practices*. Kuala Lumpur: Department of Irrigation and Drainage (DID) and Malaysian Water Partnership (MyWP), 126-132.
- Chan, N.W., Chan, L.K. and Kanda Kumar (2004) Chapter 7: Ecotourism in the Penang National Park: Issues & Challenges. In

- N.W. Chan (Editor) *Ecotourism: Issues and Challenges*. Penang: School of Humanities, Universiti Sains Malaysia, 58-75.
- Leong, J., Ang, F. and Chan, N.W. (2004) Chapter 13: The Dos and Don'ts for the Ecotourist. In N.W. Chan (Editor) *Ecotourism: Issues and Challenges*. Penang: School of Humanities, Universiti Sains Malaysia, 113-118.
- Nor Azazi Zakaria, Aminuddin Abd Ghani, Kung, H.T. and Chan, N.W. (2004) Chapter 14: Using Rivers for Ecotourism. In N.W. Chan (Editor) *Ecotourism: Issues and Challenges*. Penang: School of Humanities, Universiti Sains Malaysia, 119-128.
- Chan, N.W. (2004) The Action for Better Cities Information Series: Water. In S. Thanenthiran (Ed) *Agenda For Action – Action for Better Cities Information Series*. Kuala Lumpur: The Urban Governance Initiative (TUGI), 29-36.
- Chan, N.W. (2006) Striking a Balance between Development and Environment in Cameron Highlands. In Chan N W (Editor) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia, 12-25.
- Chan, N.W., Suriati Ghazali and Norizan Md Nor (2006) Change and Heat Island Effects in Cameron Highlands. In N.W. Chan (Editor) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia, 35-55.
- Suriati Ghazali, Chan, N.W. and Norizan Md Nor (2006) The Economic and Socio-Cultural Impacts of Ecotourism on the Orang Asli in Cameron Highlands, Pahang, Malaysia. In N.W. Chan (Editor) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia, 94-106.
- Yee, S. K. and Chan, N.W. (2006) Tourism in the Cameron Highlands: Issues, Prospects and Challenges. In N.W. Chan (Editor) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia, 107-113.
- Leong, K.W. and Chan, N.W. (2006) Bioengineering, Erosion Control Techniques for Sustainable Construction in Cameron Highlands. In N.W. Chan (Editor) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia, 121-132.
- Chan, N.W. (2006) Conclusions and Recommendations of the Seminar on Sustainable Development in Cameron Highlands, Pahang, Malaysia. In N.W. Chan (Editor) *Cameron Highlands: Issues & Challenges in Sustainable Development*. Penang: School of Humanities, Universiti Sains Malaysia, 154-157.
- Chan, N.W. (2006) Kertas Kerja 4 – Sistem Hidrologi. In Book of Proceedings by Majlis Peperiksaan Malaysia “*Kertas Kerja Taklimat Sukatan Pelajaran Geografi (942) STPM*”, 7 – 10 April 2006. Kuala Lumpur: Majlis Peperiksaan Malaysia, 18-29.
- Teh, S.Y., Koh, H.L., Chan, N.W. and Ahmad Izani Md. Ismail (2006) Modelling Tasik Harapan as a Flood Retention Pond. *Healthy Campus Series (No. 13) Monitoring and Modelling of a University in a Garden*. Penerbit Universiti Sains Malaysia, Pulau Pinang, Malaysia, 84 – 101.
- Chan, N.W., Koh, H.L. and Aminuddin, A.G. (2006) Developing a Model of Flood Hazards on Urban Floodplains in Malaysia. In Abd. Aziz Tajuddin and K.O. Lim (Editors) *Fundamental Research at USM 2002 – 2005 Vol. 3 (Arts)*. Penang: Penerbit Universiti Sains Malaysia, 32-54.
- Chan, N.W. and Bouguerra, L. (2007) Introduction to Water Issues on a Global Perspective. In N.W. Chan and L. Bouguerra (Editors) (2007) *World Citizens' Assembly on Water: Towards Global Water Sustainability*. Penang: Water Watch Penang and Alliance for a Responsible, Plural and United World, 19-42.
- Chan, N.W. (2007) Partnerships in Integrated Water Resources Management (IWRM): A Case Study of Water Watch Penang. In
- N.W. Chan and L. Bouguerra (Editors) (2007) *World Citizens' Assembly on Water: Towards Global Water Sustainability*. Penang: Water Watch Penang and Alliance for a Responsible, Plural and United World, 47-56.

- Chan, N.W. (2007) Non-Governmental Organizations and Community Participation in Water Resources Management in Malaysia. In N.W. Chan and L. Bouguerra (Editors) (2007) *World Citizens' Assembly on Water: Towards Global Water Sustainability*. Penang: Water Watch Penang and Alliance for a Responsible, Plural and United World, 57-71.
- Chan, N.W. and Bouguerra, L. (2007) Conclusions and Recommendations of the World Citizens' Assembly on water (WCAW) Meeting in Kuala Lumpur, October 2005. In N.W. Chan and L. Bouguerra (Editors) (2007) *World Citizens' Assembly on Water: Towards Global Water Sustainability*. Penang: Water Watch Penang and Alliance for a Responsible, Plural and United World, 144- 158.
- Chan, N.W. (2007) Application of Domestic Water Audit and Other Water Demand Management (WDM) Strategies. In *Malaysian Environmental NGOs' Integrated Water Resource Management (IWRM) Training Module*. Petaling Jaya: Malaysian Environmental NGOs, Global Water Partnership and Malaysian Water Partnership, 25-44.
- Chan, N.W. (2007) Application of Domestic Water Audit and Other Water Demand Management (WDM) Strategies. In *Malaysian Environmental NGOs' Integrated Water Resource Management (IWRM) Training Module – CD Version*. Petaling Jaya: Malaysian Environmental NGOs, Global Water Partnership and Malaysian Water Partnership.
- Chan, N.W. (2008) Chapter 8: Penawaran dan Permintaan Air Di Bandar – Isu-Isu Pengurusan Air Dan Cabaran Dalam Kelestarian Air. In Jamaluddin Md. Jahi, Kadaruddin Aiyub, Kadir Ariffin, Muhammad Rizal Razman, Azahan Awang, Abdul Samad Hadi, Abdul Hadi Harman Shah and Laily Bin Din (Editors) *Ekosistem Bandar Perindustrian*. Bangi: Pusat Pengajian Siswazah, Universiti Kebangsaan Malaysia, 93-111.
- Chan, N.W. (2010) Chapter 2: Managing Limited Water Resources – Smart Partnership at Work. In Malaysian Environmental Non- Governmental Organisations (MENGO) *Taking the Green Path – MENGOs' Initiative Towards Sustainable Development*. Petaling Jaya: Malaysian Environmental Non-Governmental Organisations (MENGO), 15-20.
- Chan, N.W. and Barrow, C.J. (2010) Chapter 6: The Potential for Tourism to Support Sustainable Development in Cameron Highlands. In Kadir Din and Jabil Mapjabil (Editors) *Tourism Research in Malaysia: What, Which Way and So What?* Sintok: Universiti Utara Malaysia Press, 107-130.
- Jabil Mapjabil and Chan, N.W. (2010) Chapter 8: Ecotourism in Highland Areas in Malaysia: A Study on Perception of Hoteliers. In Kadir Din and Jabil Mapjabil (Editors) *Tourism Research in Malaysia: What, Which Way and So What?* Sintok: Universiti Utara Malaysia Press, 147-158.
- Tarmiji Masron, Chan Ngai Weng, Mohammad Luthfi Abdul Rahman, Azmi Arifin (2012) "Peta budaya Sebagai Pendekatan Pemuliharaan Warisan Alam dan Budaya." In Abu Talib Ahmad (Editor) *Utara Semenanjung Malaysia: Esei-Esei Warisan*. Penang: Penerbit USM, 225-236.
- Chan, N.W. (2012) Chapter 6 The N-Park Negalitres Project: A Pilot Water-Saving Initiative Using Green Technology and Changing Water Use Behaviour. In Ardakanian, R. and Dirk, J. (Editors) "Water and the Green Economy: Capacity Development Aspects". Bonn, UN-Water Decade Programme on Capacity Development (UNW-DPC): 75-90.
- Jabil Mapjabil, Chan, N.W. and Ahmad Tharmizzie Mat Jusoh (2012) Chapter 5: Pengetahuan, Sikap dan Amalan dalam Ekopelancongan Tanah Tinggi di Malaysia. In Jabil Mapjabil and Kadir Din (Editors) *Pelancongan di Malaysia: isu-Isu Penyelidikan Terkini*. Sintok: Universiti Utara Malaysia Press, 63-81.
- Chan, N.W., Narimah Samat and Suriati Ghazali (2013) Some Examples of Water Management in Malaysia. In Nurul Farhana Abdullah and Mohamad Rashidi Pakri (Editors) *Retracing Tradition for a Sustainable Future: The Malaysian Experience*. Penang: Penerbit Universiti Sains Malaysia, 1-15 (ISBN: 978-983-861-581-5).
- Chan, N.W. (2013) Chapter 11 Tasik Harapan: Multi-Purpose Use as Retention Pond for Flood Control, Recreation, Research and Community Participation. In Mohamad Suhaily Yusri Che Ngah, Mohmadisa Hashim and Nasir Nayan (Editors) *Hidrologi & Pengurusan Sumber Air di Malaysia*. Tanjong Malim: Penerbit Jabatan Geografi dan Alam Sekitar, Fakulti Sains Kemanusiaan, Universiti Pendidikan Sultan Idris, 161-172 (ISBN: 978-983-2063-63-6).

- Chan, N.W. (2013) Masalah Sumber dan bekalan Air serta Pengurusannya di Malaysia. In Jamaluddin Md. Jahi, Muhammad Rizal Razman, Rusli Zainal, Abdullah Sulaiman and Emrizal (Editors) *Pengurusan Alam Sekitar di Malaysia dan Indonesia*. Bangi: Institute Alam dan Tamadun Melayu, 118-150.
- Chan, N.W., Ku Ruhana Ku-Mahamud and Mohd Zaini Abd. Karim (2013) Local wisdom in adapting to and coping with flood disasters in ASEAN countries. In Norizan, E. (Editor) *Reengineering Local Knowledge - Life, Science and Technology*. Penang: Penerbit Universiti Sains Malaysia, 59-72.
- Chan, N.W. (2014) Chapter 11 - The Role of Non-Governmental Organizations in Promoting Education and Environmental Awareness in Malaysia. In Li, J. (Editor) *Environment and Sustainable Development in Asia*. Singapore: World Scientific Publishing Co. Pte. Ltd., 215-243.
- Chan, N.W. (2014) Metodologi Kajian Sungai: Satu Kaedah Kerja Lapangan dalam geografi Fizikal. In Wan Ruslan Ismail, Narimah Samat and Noorah Yusof (Penyunting) *Kerja Lapangan: Teknik, Prosedur dan Aplikasi dalam Geografi*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 65-81.
- Chan, N.W. (2014) Ancaman dan Cabaran dalam Pembangunan Ekopelancongan Geopark di Pulau Langkawi. In Jabil Mapjabil (Editor) *Pelancongan di Pulau Langkawi: Pembangunan dan Implikasi*. Batu Pahat: Penerbit Universiti Tun Hussein Onn, 63-80. ISBN 978-983-0468-90-7.
- Chan, N.W. (2015) Chapter 12 Impacts of Disasters and Disaster Risk Management in Malaysia: The Case of Floods. In Aldrich, D.P., Oum, S. and Sawada, Y. (Editor) *Resilience and Recovery in Asian Disasters, Risks, Governance and Society*. Springer (e- Book), 239-265. ISBN 978-4-431-55022-8. DOI 10.1007/978-4-43.
- Sharifah Meryam Shareh Musa, Chan Ngai Weng and Haryati Shafi (2015) Pengurusan Banjir di Malaysia Melalui Kaedah Struktur, Bukan Struktur dan Bersepadu. In Jabil Mapjabil, Tuan Pah Rokian Syed Hussein and Chan Ngai Weng (Editors) *Ekosistem Lembangan Saliran Malaysia: Bencana dan Pengurusannya*. Sintok: Universiti Utara Malaysia Press, 50-69.
- Chan Ngai Weng (2015) The N-Park Condominium Water Saving Project: Stakeholder Engagement for Better Urban Water Management. In United Nations Economic and Social Commission for Asia and the Pacific and K-water "Water and Green Growth: Case Studies from the Asia and the Pacific", Bangkok: United Nations Economic and Social Commission for Asia and the Pacific and K-water, 20-22.
- Chan Ngai Weng, Nor Azazi Zakaria, Aminuddin Ab Ghani and Lee Lai Kuan (2015) Hydrological Cycle Chapter 14. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 81-89.
- Chan Ngai Weng (2015) Global Warming Chapter 10. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 58-61.
- Chan Ngai Weng and Seow Ta Wee (2015) Resiliency Chapter 8. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 51-53.
- Chan Ngai Weng and Badaruddin Mohamed (2015) Ecological Footprint Chapter 6. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 35-44.
- Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (2015) What Are Sustainable Cities? Chapter 1. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 7-12.
- Chan Ngai Weng (2015) Resource Basis of Our Life, Chapter 3. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 20-24.

- Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (2015) Introduction Chapter. In Chan Ngai Weng, Masazumi Ao and Hidefumi Imura (Editors) *Manual on Sustainable Urban Development and Management*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 1-6.
- Chan Ngai Weng (2015) Chapter II: 20 Urbanization and the Generation of Urban Heat islands in Selected Cities in Malaysia. In *Urban Sustainable Development Opportunities – Challenges*. Ho Chi Minh City: University of Social Sciences & Humanities, Vietnam National University, 218-232 (ISBN 978-604-73-3272-4).
- Lai Chee Hui, Chan Ngai Weng, Phang Wai Leng and Ranjan Roy (2015) Chapter II: 17 Evaluation Non-Revenue Water (NRW) Reduction Strategies in Malaysia: A Preliminary Study of Selected Water Authorities. In *Urban Sustainable Development Opportunities – Challenges*. Ho Chi Minh City: University of Social Sciences & Humanities, Vietnam National University, 181- 190 (ISBN 978-604-73-3272-4).
- Chan Ngai Weng (2015) Chapter 6: Human Aspect of Water Security Focussing on Governance, Water Demand Management and Non-Revenue Water in Urban Areas in Malaysia. In *Urban Water Cycle Processes, Management & Societal Interactions: Crossing from Crisis to Sustainability*. Penang: River Engineering and Urban Drainage Research Centre Publication, 225-266.
- Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (2016) Chapter 1: Introduction. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 1-13.
- Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (2016) Chapter 2: What are sustainable cities?. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 14-20.
- Chan, N.W. (2016) Chapter 4: Resource basis of our life. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 27-31.
- Chan, N.W., Badaruddin Mohamed and Jabil Mapjabil (2016) Chapter 7: Ecological footprint and cities. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 42-51.
- Chan, N.W., Ta Wee Seow and Chun Kiat Chang (2016) Chapter 9: Resiliency. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 58-62.
- Chan, N.W., Ta Wee Seow, David Martin, Kai Chen Goh and Hui Hwang Goh (2016) Chapter 11: Global Warming. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 67-73.
- Chan, N.W., Ku Ruhana Ku Mahamud, Mohamad Zaini Karim, Lai Kuan Lee and Charles Hin Joo Bong (2016) Chapter 15: Hydrological Cycle and Cities. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 95-104.
- Chan, N.W., Main Rindam, Radiah Yusof, Masazumi Ao and Keng Yuen Foo (2016) Chapter 17: Water Management in Cities. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 112-117.
- Chan, N.W., Narimah Samat, Suriati Ghazali, Radiah Yusof and Wai Leng Phang (2016) Chapter 18: Water Budget of a Household. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 118-125.

- Chan, N.W., Wan Ruslan Ismail, Abu Talib Ahmad, Chern Wern Hong and Olivier Gervais (2016) Chapter 19: Rain Harvesting. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 126-136.
- Chan, N.W., Nor Azazi Zakaria, Aminuddin Ab Ghani, Suhaimi Abdul-Talib and Lariyah Mohd-Sidek (2016) Chapter 20: Drinking Water Supply. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 137-146.
- Chan, N.W., Akihiro Nakamura and Hidefumi Imura (2016) Chapter 27: Transit-Oriented Development (TOD). In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 177-183.
- Chan, N.W., Narimah Samat and Nguyen Minh Hoa (2016) Chapter 31: Decision Support System for Urban Planning. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 199-203.
- Chan, N.W., Ta Wee Seow and Jabil Mapjabil (2016) Chapter 32: Infectious Diseases and Pandemics. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 204-210.
- Chan, N.W. (2016) Chapter 34: Climate Change and Public Health. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 220-225
- Chan, N.W., Sulzakimin Hj Mohamed and Mou Leong Tan (2016) Chapter 35: Air Pollution. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 226-234.
- Chan, N.W., Masazumi Ao, Nor Azazi Zakaria and Aminuddin Ab Ghani and Zullyadini A. Rahaman (2016) Chapter 38: Rivers and Cities. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 248-258.
- Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (2016) Chapter 43: Conclusion: Towards Sustainable Cities. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 296-300.
- Hong, C.W., Ngai Weng Chan and Ta Wee Seow (2016) Chapter 22: Municipal Solid Waste. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 154-157.
- Nor Azazi Zakaria, Aminuddin Ab Ghani, Ngai Weng Chan and Chun Kiat Chang (2016) Chapter 39: Sustainable Urban Drainage and Cities. In Chan, N.W., Hidefumi Imura, Akihiro Nakamura and Masazumi Ao (Editors) *Sustainable Urban Development Textbook*. Penang: Water Watch Penang & Global Cooperation Institute for Sustainable Cities, 259-270.
- Tam, T.H., MZ Abd Rahman, Chan, N.W. and Woodhouse, I. (2016) Chapter 5: Flood Risk Assessment for Kota Tinggi, Johor, Malaysia. In P.K. Srivastava, P.C. Pandey, P.Kumar, A.S. Raghubanshi and Han, D. (Editors) *Geospatial Technology for Water Resource Applications*, Boca Raton: CRC Press: 81-93.
- Chan, N.W. (2017) Water and Green Growth. In Academy of Sciences Malaysia *Transforming the Water Sector: National Integrated Water Resources Plan, Strategies and Road Map*. Kuala Lumpur: Akademi Sains Malaysia, 221-240.
- Chan, N.W. (2017) Chapter 3: Water. In *To Mother Earth: Training of Trainers Manual*. Penang: Penang Green Council, 47-73.

- Chan, N.W. (2017) Bencana Banjir di Malaysia: Keperluan Perancangan Pro-Bencana dan Pengurusan Pro-Aktif. Dalam Haliza Abdul Rahman, Rapeah Suppian and Wan Nor Amilah Wan Abdul Wahab (Editors) *Banjir: Risiko Kesihatan dan Pengurusannya*. Parit Raja: Penerbit UTHM, 162-178.
- Chan, N.W., Seow, T.W., Martin, D., Goh, K.C. and Goh, H.H. (2018) Chapter 2: Global Warming. In University of Philippines
- *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 5-11.
- Chan, N.W., Ku Ruhana Ku Mahamud, Mohamad Zaini Karim, Lee, L.K. and Bong, C.H.J. (2018) Chapter 3: Hydrological Cycle and Cities. In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: Uni. of Philippines, 12-21.
- Chan, N.W., Main Rindam, Radiah Yusof, Ao, M. and Foo, K.Y. (2018) Chapter 5: Water Management in Cities. In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 29-34.
- Chan, N.W., Narimah Samat, Suriati Ghazali, Radiah Yusof and Wai Leng Phang (2018) Chapter 6: Water Budget of a Household. In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 35-42.
- Chan, N.W., Wan Ruslan Ismail, Abu Talib Ahmad, Chern Wern Hong and Olivier Gervais (2018) Chapter 7: Rain Harvesting. . In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 43-53.
- Chan, N.W., Nor Azazi Zakaria, Aminuddin Ab Ghani, Suhaimi Abdul-Talib and Lariyah Mohd-Sidek (2018) Chapter 8: Drinking Water Supply. In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 54- 63.
- Hong, C.W. and Chan, N.W. (2018) Chapter 9: Waste Water. In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 54-63.
- Hong, C.W., Chan, N.W. and Seow, T.W. (2018) Chapter 10: Municipal Solid Waste. In University of Philippines *Sustainable Urban Development Textbook 2018*. Manila: University of Philippines, 71-74.
- Chan, N.W., Mahamud, K.R.K., Karim, M.Z., Lee, L.K. and Bong, C. H.J. (2019) Chapter 1: Hydrological Cycle and Cities. In Chan, N.W. and Imura, H. (Eds) *Sustainable Urban Development Program - Makassar 2019*. Penang: Water Watch Penang, Global Cooperation Institute for Sustainable Cities, Yokohama City University, Japan and Universiti Sains Malaysia, 13-22.
- Chan, N.W., Rindam, M., Yusof, R., Ao, M. and Foo, K.Y. (2019) Chapter 3: Water Management in Cities. In Chan, N.W. and Imura, H. (Eds) *Sustainable Urban Development Program - Makassar 2019*. Penang: Water Watch Penang, Global Cooperation Institute for Sustainable Cities, Yokohama City University, Japan and Universiti Sains Malaysia, 30-35.
- Chan, N.W., Samat, N., Ghazali, S., Yusof, R. and Phang, W.L. (2019) Chapter 4: Water Budget of a Household. In Chan, N.W. and Imura, H. (Eds) *Sustainable Urban Development Program - Makassar 2019*. Penang: Penang: Water Watch Penang, Global Cooperation Institute for Sustainable Cities, Yokohama City University, Japan and Universiti Sains Malaysia, 36-43.
- Chan, N.W., Zakaria, N.A., Ghani, A.A., Abu-Talib, S. and Mohd-Sidek, L. (2019) Chapter 5: Drinking Water Supply. In Chan,
- N.W. and Imura, H. (Eds) *Sustainable Urban Development Program - Makassar 2019*. Penang: Penang: Water Watch Penang, Global Cooperation Institute for Sustainable Cities, Yokohama City University, Japan and Universiti Sains Malaysia, 44-53.



- Hong, C.W. and Chan, N.W. (2019) Chapter 6: Wastewater. In Chan, N.W. and Imura, H. (Eds) *Sustainable Urban Development Program - Makassar 2019*. Penang: Penang: Water Watch Penang, Global Cooperation Institute for Sustainable Cities, Yokohama City University, Japan and Universiti Sains Malaysia, 54-58.
- Mohamed, S., Wee, S. T. and Chan, N.W. (2021) Chapter 1: The Awareness towards Sustainable Development in Kuala Lumpur, Malaysia. In Fahmida Khan (Editor) *Current Approaches in Science and Technology Research Vol. 2*. Hooghly: B P International, 1–8. <https://doi.org/10.9734/bpi/castr/v2/2040F>
- Chan, N.W., Ghani, A.A., Samat, N., Roy, R., Tan, M.L. and Rahman, H.A. (2021) Chapter 18 Addressing Water Resources Shortfalls Due to Climate Change in Penang, Malaysia. In M. Babel. A. Haarstrick, L. Ribbe, V. R. Shinde and N. Dichtl (Editors) *Water Security in Asia: Opportunities and Challenges in the Context of Climate Change*. Cham, Switzerland: Springer Nature Switzerland AG 2021: 239-250. ISSN 2364-6934 ISSN 2364-8198 (electronic) Springer Water ISBN 978-3-319-54611-7 ISBN 978-3-319-54612-4 (eBook)

#### Article in Proceeding

- Chan, N.W. (1989) Monsoon Effects on the Rainfall Patterns in the East Coast of Peninsular Malaysia. In *Proceedings of the 15th Conference of the New Zealand Geographical Society, Dunedin, 21st - 24th August*. Dunedin: The New Zealand Geographical Society, 239-45.
- Chan, N.W. (1995) Flood Disaster Preparedness, Warning, Evacuation and Relief in Malaysia. In R. Clementson (ed) *Proceedings of 'Emergency Planning 95 - An International Conference', Lancaster (UK), 2 - 6 July 1995*. Preston: Emergency Planning H.Q. Lancashire County Council, 53-67.
- Chan, N.W. (1997) Official Response to Flash and Monsoon Floods in Malaysia. In V Andersen and A N Hansen (eds) *The International Emergency Management Society Conference 1997 "National and International Issues Concerning Research and Applications, June 10-13, Copenhagen, Denmark*. Copenhagen: The International Emergency Management Society, 85-98.
- Chan, N.W. (1997) Mitigating Natural Hazards and Disasters in Malaysia: Lessons Learnt from Tropical Storm Greg and its Aftermath. In K. S. Jomo (ed) *Proceedings of the First International Malaysian Studies Conference, 11-13 August 1997*. Kuala Lumpur: Malaysian Social Science Association. (In CD Rom)
- Chan, N.W. and Parker, D.J. (1997) Aspek-Aspek Sosio-Ekonomi Berkaitan Dengan Bahaya Dan Bencana Banjir Di Semenanjung Malaysia. In Mohd. Razali Agus and Fashir Noor Sidin (Eds) *Proceedings of Persidangan Kebangsaan Kajian Sains Sosial, 29-30 September 1997*. Kuala Lumpur: University of Malaya, 294-311.
- Chan, N.W. (1997) Evaluating the Most Significant Factors Affecting the Overall Subjective Severity and the Subjective Severity of Other Impacts of Flooding in Peninsular Malaysia. In Mohd. Razali Agus and Fashir Noor Sidin (Eds) *Proceedings of Persidangan Kebangsaan Kajian Sains Sosial, 29-30 September 1997*, Kuala Lumpur: University of Malaya, 259-273.
- Chan, N.W. (1997) Disaster and Emergency Response to Flood Hazards in Peninsular Malaysia. In *IDER '97 Conference Proceedings*. Warminster (UK): Andrich International Limited, 206-224.
- Chan, N.W. (1998) Institutional Issues for Water Management in Malaysia. In *Selected English Papers of the Asian Conference on Water and Wastewater Management, Tehran, March 2-4 1998*. Tehran: PR Committee of Asian Conference on Water and Wastewater Management, 27 - 42.
- Chan, N.W. and Wan Ruslan Ismail (1998) Effects of Sedimentation and Flash Flooding on Surface Water Resources in Penang, Malaysia. In *Selected English Papers of the Asian Conference on Water and Wastewater Management, Tehran, March 2-4 1998*, Teheran: PR Committee of Asian Conference on Water and Wastewater Management, 300 - 322.

- Chan, N.W. (1998) Environmental Effects of Rapid Development and Urbanisation: The Case of Hill Development and Land Reclamation in Penang. In Lim P H, Seng C E, Liew K Y and Mohd Asri Mohd Nawi (Eds) *Chemistry and Technological Development in Environmental Management*. Penang: Universiti Sains Malaysia, 79 - 102.
- Chan, N.W. (1999) Effective Use of Price Phasing for Water Conservation in Malaysia in the 21st Century. *Proceedings of the Second International Malaysian Studies Conference, 2-4 August 1999, Universiti Malaya, Kuala Lumpur*. Kuala Lumpur: Malaysian Social Science Association, Unpaged.
- Chan, N.W. (1999) Employment of Non-Structural Flood Mitigation Measures in Alleviating Flood Problems in Penang. *Proceedings of the Second International Malaysian Studies Conference, 2-4 August 1999, Universiti Malaya, Kuala Lumpur*. Kuala Lumpur: Malaysian Social Science Association, Unpaged.
- Chan, N.W. (1999) Major issues in relation to water resources management in Malaysia in the third millennium. In Abdul Aziz Abdul Samad, Megat Johari Mohd Noor, Badronnisa Yusuf, Mohd Razali Abdul Kadir and Azlan Abdul Aziz (Editors) *Proceedings in World Engineering Congress 1999 "Towards the Engineering Vision: Global Challenges & Issues"*. Kuala Lumpur: The Institute of Engineers, Malaysia and Faculty of Engineering, Universiti Putra Malaysia, 21-26.
- Chan, N.W. (1999) Integrating structural and non-structural flood mitigation measures for overall flood hazard management in urban areas in Malaysia. In Abdul Aziz Abdul Samad, Megat Johari Mohd Noor, Badronnisa Yusuf, Mohd Razali Abdul Kadir and Azlan Abdul Aziz (Editors) *Proceedings in World Engineering Congress 1999 "Towards the Engineering Vision: Global Challenges & Issues"*. Kuala Lumpur: The Institute of Engineers, Malaysia and Faculty of Engineering, Universiti Putra Malaysia, 27-34.
- Chan, N.W. (2000) Management of Flood Disasters in Malaysia: Combining Official and Traditional Flood Warning and Evacuation Systems for Overall Effective Flood Loss Reduction. In Juhary Ali, Norsiah Mat, Fariza Hashim and Nizamuddin Zainudin (Eds) *Proceedings of "The International Conference on Disaster Management: Lessons to be Learnt", April 29-30, Langkawi*. Sintok: School of Management, Universiti Utara Malaysia, 19-37.
- Chan, N.W. (2000) The 1997/98 Nationwide Water Crisis in Malaysia: What Are the Causes and Lessons Learnt? In Juhary Ali, Norsiah Mat, Fariza Hashim and Nizamuddin Zainudin (Eds) *Proceedings of "The International Conference on Disaster Management: Lessons to be Learnt", April 29-30, Langkawi*. Sintok: School of Management, Universiti Utara Malaysia, 270-284.
- Chan, N.W. (2000) El Nino and the 1998 Water Crisis in Malaysia: Causes, Lessons and Solutions. In K.M. Kowalski and M.A. Trevits (eds) *Contingencies, Emergency, Crisis, And Disaster Management: Emergency Management in the Third Millennium*. Pittsburg: The International Emergency Management Society (TIEMS), 32-41.
- Chan, N.W. and Kung, H.T. (2001) "Management of River Pollution as a Tool in Water Resources Management: Some Examples from Malaysia." In K.L. Risher (Ed) *2001 Proceedings of the Thirty-First Mississippi Water Resources Conference, April 10-11, 2001, Raymond, Mississippi*. Raymond: Water Resources Research Institute and Mississippi State University, Mississippi State, 108-120.
- Sears, P., Chan, N.W. and Kung, H.T. (2001) "Major Issues and Concerns of the Mekong River, An International River." In K.L. Risher (Ed) *2001 Proceedings of the Thirty-First Mississippi Water Resources Conference, April 10-11, 2001, Raymond, Mississippi*. Raymond: Water Resources Research Institute and Mississippi State University, Mississippi State, 147-158.
- Chan, N.W. and Kung, H.T. (2001) "Effects of Flooding Due to Tropical Storm Greg 1996 in Sabah, Malaysia: Some Lessons Learnt in Emergency Management." In *TIEMS 2001 "Emergency Management Towards Co-operation and Global Harmonisation"*. Oslo: The International Emergency Management Society (TIEMS), 4.3.1 - 4.3.10 (In CD Rom).
- Liu, P.S. and Chan, N.W. (2001) "The Malaysian Flood Hazard Management Programme." In *TIEMS 2001 "Emergency Management Towards Co-operation and Global Harmonisation"*. Oslo: The International Emergency Management Society (TIEMS), 4.9.1 - 4.9.9 (Published in CD Rom).

- Chan, N.W., Ab. Latif Ibrahim and Radiah Yusof (2001) Setinggalan dan Penetapan Penempatan di Dataran Banjir di Malaysia. In Mohd Yusof Hj Othman, Idris Abd Ghani, Musa Ahmad and Supian Samat (Ed) *Proceedings of the National Conference on Research and Development IPTA 2001*. Bangi: Penerbit Pusat Pengurusan Penyelidikan, Universiti Kebangsaan Malaysia, 463- 470.
- Lee, O.P. and Chan, N.W. (2002) Incidence of Acid Rain in Peninsular Malaysia and Its Implications on Surface River Water Resources. In N W Chan (Ed) *Rivers: Towards Sustainable Development*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 70- 80.
- Chan, N.W. (2002) Flood Hazards and Disasters in Malaysia: Causes, Impacts and Solutions with Respect to River Floods. In N W Chan (Ed) *Rivers - Towards Sustainable Development*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 114-127.
- Chan, N.W., Kung, H.T., Tashpolat, T. and Liu, P.S. (2002) *Hazards as A Form of Unsustainable Development in Penang Island*.
- In N.W. Chan (Ed) *Rivers: Towards Sustainable Development*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 128-135.
- Ab Latiff Ibrahim, Habibah Hj Lateh, Wan Ruslan Ismail, Chan, N.W., Kung, H.T. and Liu, P. S. (2002) *Effects of Hill Land Development and Soil Erosion on Sedimentation and Water Resources in Malaysia*. In N.W. Chan (Ed) *Rivers: Towards Sustainable Development*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 314-319.
- Sears, P., Chan, N.W., Kung, H.T., Liu, P.S. and Tashpolat, T. (2002) Transboundary Issues Affecting the Mekong River: Some Observations. In N.W. Chan (Ed) *Rivers: Towards Sustainable Development*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 390-398.
- Rasagam, G. and Chan, N.W. (2002) The Role of Non-Governmental Organisations in Public Awareness and Environmental Education Towards Protection, Conservation and Rehabilitation of Rivers: Some Examples from the Work of Water Watch Penang. In N.W. Chan (Ed) *Rivers: Towards Sustainable Development*. Pulau Pinang: Penerbit Universiti Sains Malaysia, 470- 480.
- Chan, N.W., Ab Latif Ibrahim, Kung, H.T. and Liu, P.S. (2002) "Employing Nature to Combat Floods: Some Experiences from Malaysia". In Juhary Ali, Badruddin A Rahman, Zahari Mohamed and Nizamuddin Zainuddin (Ed) *Disaster Management: Strengthening The National Security Capabilities*. Alor Setar: Penerbit Ustara, 143-158.
- Chan, N.W., Ab Latif Ibrahim, Radiah Yusoff and Nor Aini Ismail (2002) "The Significance of Stress and Other Intangible Losses during Major Flood Disasters in Malaysia". In Juhary Ali, Badruddin A Rahman, Zahari Mohamed and Nizamuddin Zainuddin (Ed) *Disaster Management: Strengthening The National Security Capabilities*. Alor Setar: Penerbit Ustara, 159-176.
- Kung, H.T., Liu, P.S., Chan, N.W. and Chang, T.S. (2002) "Assessment of Earthquake Vulnerability for Essential Facilities in East Arkansas". In Juhary Ali, Badruddin A Rahman, Zahari Mohamed and Nizamuddin Zainuddin (Ed) *Disaster Management: Strengthening The National Security Capabilities*. Alor Setar: Penerbit Ustara, 239-250.
- Liu, P.S., Kung, H.T. and Chan, N.W. (2002) "Managing Wildfire Hazard Using GIS Modelling in a Heterogenous Landscape". In Juhary Ali, Badruddin A Rahman, Zahari Mohamed and Nizamuddin Zainuddin (Ed) *Disaster Management: Strengthening The National Security Capabilities*. Alor Setar: Penerbit Ustara, 259-270.
- Hajar Abdul Rahim, Radiah Yusoff, Noraini Ismail and Chan, N.W. (2002) "The Role of Women in Water Conservation in Malaysia". In Ramlan Omar, Zulfahmi Ali Rahman, Mohd Talib Latif, Tukimat Lihan and Jumaat Hj. Adam (Eds) *Proceedings of the International Conference "Regional Symposium on Environment & Natural Resources: Utilization, Management & Sustainable Development of the Environment and Natural Resources"*, Kuala Lumpur, 10-11 April 2002. Bangi: School of Environmental Science and Natural Resources UKM, 161-170.

- Chan, N.W., Ab Latif Ibrahim and Hajar Abdul Rahim (2002) "The Role of Women in Water Conservation in Malaysia". In Ramlan Omar, Zulfahmi Ali Rahman, Mohd Talib Latif, Tukimat Lihan and Jumaat Hj. Adam (Eds) *Proceedings of the International Conference "Regional Symposium on Environment & Natural Resources: Utilization, Management & Sustainable Development of the Environment and Natural Resources"*, Kuala Lumpur, 10-11 April 2002. Bangi: School of Environmental Science and Natural Resources UKM, 68-79.
- Chan, N.W. (2002) Effects of the 1997/98 El Nino in the IMT-GT Region: Issues and Challenges. *Proceedings of the International Conference – The Fourth Regional IMT-GT Uninet Conference 2002 "Future Scenario in Biological Research: Insights and Co-operation"*. Penang: Universiti Sains Malaysia, 379-382.
- Lee, O.P. and Chan, N.W. (2002) Effects and Implications of Acid Rain on Surface Water Resources in Peninsular Malaysia. In Jamaluddin Md Jahi, Mohd Jailaini Mohd Nor, Kamaruzzaman Sopian, Ismail Sahid and Abdul Hadi Harman Shah (Eds) *Realising Agenda 21: Proceedings International Conference on Environmental Management: Ten Years After Rio*. Bangi: Environmental Management Programme, Centre for Graduate Studies, Universiti Kebangsaan Malaysia, 226-236.
- Chan, N.W. (2002) *A Critical Review of Malaysia's Accomplishments on Water Resources Management Under Agenda 21*. In Jamaluddin Md Jahi, Mohd Jailaini Mohd Nor, Kamaruzzaman Sopian, Ismail Sahid and Abdul Hadi Harman Shah (Eds) *Realising Agenda 21: Proceedings International Conference on Environmental Management: Ten Years After Rio*. Bangi: Environmental Management Programme, Centre for Graduate Studies, Universiti Kebangsaan Malaysia, 315-334.
- Chan, N.W. (2002) "Consumers' Expectations of Water Service Organisations". *Proceedings of National Seminar "JTJAD 2002 Bekalan Air: Strategi & Cabaran"*, Melaka, 16-18 Disember 2002. Melaka: Melaka State Government, Melaka Water Corporation and Action Committee on District Water Engineers, 1-12.
- Liu, P.S., Hsiang, Kung, H.T. and Chan, N.W. (2002) "GIS Application in Sudden Infant Death Syndrome (SIDS) Pattern Recognition". *Proceedings of the 22nd ESRI International User Conference, San Diego, California, July 8-12, 2002* (<http://gis.esri.com/library/userconf/proc02/abstracts/a0972.html>)
- Chan, N.W. (2003) *Using Wetlands as Natural Forms of Flood Control*. In Ahyaudin Ali, Che Salmah Md Rawi, Mashhor Mansor, Reiko Nakamura, Sundari Ramakrishna and Taej Mudkur (Editors) *The Asian Wetlands: Bringing Partnerships into Good Wetland Practices*. Penang: Ministry of Science, Technology and the Environment, Malaysia, Universiti Sains Malaysia, Ramsar Center Japan and Wetlands International Asia Pacific. Penerbit Universiti Sains Malaysia, Part VII: Climate Change, 909-919.
- Barrow, C.J., Chan, N.W., Clifton, J., Chang, W.F., Wong, C.F. and Ting, P.L. (2003) Effects of Environmental Degradation on Orang Asli Livelihoods: a Case Study in the Cameron Highlands. In Wan Ruslan Ismail, Narimah Samat, Aziz Abdul Majid, Moha Asri Abdullah and Anisah Abdullah (Editors) *Society, Space & Environment in a Globalised World: Challenges and Prospects*. Penang: Geography Section Universiti Sains Malaysia and National Geographical Association of Malaysia, 437-448.
- Chan, N.W., Anisah Lee Abdullah, Ab Latif Ibrahim and Suriati Ghazali (2003) River Pollution and Restoration towards Sustainable Water Resources Management in Malaysia. In Wan Ruslan Ismail, Narimah Samat, Aziz Abdul Majid, Moha Asri Abdullah and Anisah Abdullah (Editors) *Society, Space & Environment in a Globalised World: Challenges and Prospects*. Penang: Geography Section Universiti Sains Malaysia and National Geographical Association of Malaysia, 208-219.
- Chan, N.W., Clifton, J, Barrow, C, Chang, W.F., Wong, C.F. and Ting, P.L. (2003) Development Issues and Prospects in Cameron Highlands. In Wan Ruslan Ismail, Narimah Samat, Aziz Abdul Majid, Moha Asri Abdullah and Anisah Abdullah (Editors) *Society, Space & Environment in a Globalised World: Challenges and Prospects*. Penang: Geography Section Universiti Sains Malaysia and National Geographical Association of Malaysia, 240-251.

- Clifton, J., Barrow, C., Chan, N.W., Chang, W.F., Wong, C.F. and Ting, P.L. (2003) Ecotourism in the Cameron Highlands: Issues and Challenges. In Wan Ruslan Ismail, Narimah Samat, Aziz Abdul Majid, Moha Asri Abdullah and Anisah Abdullah (Editors) *Society, Space & Environment in a Globalised World: Challenges and Prospects*. Penang: Geography Section Universiti Sains Malaysia and National Geographical Association of Malaysia, 383-392.
- Tan, S.E., Chan, N.W. and Wan Ruslan Ismail (2003) Industri Makanan dan Kesedaran Alam Sekitar di Pulau Pinang. In Wan Ruslan Ismail, Narimah Samat, Aziz Abdul Majid, Moha Asri Abdullah and Anisah Abdullah (Editors) *Society, Space & Environment in a Globalised World: Challenges and Prospects*. Geography Section Universiti Sains Malaysia and National Geographical Association of Malaysia, Penang, 393-406.
- Chan, N.W. (2003) Pengurusan Air Pada Abad Ke 21: Isu, Cabaran dan Prospek. In Jamaluddin Md. Jahi, Ismail Sahid, Kadir Arifin, Mohd Jailani Mohd Nor, Kamaruzzaman Sopian and Md. Pauzi Abdullah (Editors) *Pengurusan Persekitaran 2003*. Bangi: Pusat Pengajian Siswazah UKM, 3-32.
- Kung, H.T., Robinson, J.B. and Chan, N.W. (2003) Lessons from the past: The Du Jiang Yen – China's ancient irrigation project. In Jamaluddin Md. Jahi, Ismail Sahid, Kadir Arifin, Mohd Jailani Mohd Nor, Kamaruzzaman Sopian and Md. Pauzi Abdullah (Editors) *Pengurusan Persekitaran 2003*. Bangi: Pusat Pengajian Siswazah UKM, 327-341.
- Chan, N.W., Barrow, C., Clifton, J. and Kung, H.T. (2003) An assessment of climate change in Cameron Highlands. In Jamaluddin Md. Jahi, Ismail Sahid, Kadir Arifin, Mohd Jailani Mohd Nor, Kamaruzzaman Sopian and Md. Pauzi Abdullah (Editors) *Pengurusan Persekitaran 2003*. Bangi: Pusat Pengajian Siswazah UKM, 585-599.
- Radiah Yusoff, Nor' Aini Ismail and Chan, N.W. (2003) "Terima kasih, kak" – Satu Perlakuan Literasi Budaya. In Ambigapathy Pandian (ed.) *Bahasa dan Literasi: Penyelidikan dan Peninjauan Untuk Pendidik*. Serdang: Universiti Putra Malaysia Press, 33- 39.
- Radiah Yusoff, Nor' Aini Ismail and Chan, N.W. (2003) "Kitarlah – Cobaan ... Satu Pengalaman Sebenar Literasi Alam Sekitar. In Ambigapathy Pandian (ed.) *Bahasa dan Literasi: Penyelidikan dan Peninjauan Untuk Pendidik*. Serdang: Universiti Putra Malaysia Press, 88-92.
- Chan, N.W. (2004) *Tackling Water Crisis: Is Privatisation and Increasing Water Tariffs the Answer?* Proceedings in CD Rom of the International Conference "Inaugural International Conference – Southeast Asia Since 1945: Reflections and Visions", 20 – 23 July 2004, Penang, Malaysia. Penang: Asia Pacific Research Unit, School of Humanities, Universiti Sains Malaysia.
- Clifton J., Barrow, C.J., Chan, N.W. and Tan, Y.L. (2004) *Planning for Ecotourism in Fragile Environments: Case Studies from Malaysia and Indonesia*. Proceedings in CD Rom of the International Conference "Inaugural International Conference – Southeast Asia since 1945: Reflections and Visions", 20 – 23 July 2004, Penang, Malaysia. Penang: Asia Pacific Research Unit, School of Humanities, Universiti Sains Malaysia.
- Chan, N.W., Nor Azazi Zakaria, Aminuddin Ab Ghani and Kung, H.T. (2004) *Forest Conservation and Rehabilitation in Flood Hazard Reduction: Experiences from USA, China and Malaysia*. Proceedings in CD Rom of the International Conference "Inaugural International Conference – Southeast Asia since 1945: Reflections and Visions", 20 – 23 July 2004, Penang, Malaysia. Penang: Asia Pacific Research Unit, School of Humanities, Universiti Sains Malaysia.
- Barrow, C.J., Clifton, J., Chan, N.W. and Tan, Y.L. (2004) "Sustainable Development in the Cameron Highlands, Malaysia. In Jamaluddin Md. Jahi, Kadir Ariffin, Salmijah Surif and Shaharudin Idrus (Editors) *Facing Changing Conditions. Proceedings of the 2<sup>nd</sup> Bangi World Conference on Environmental Management*. Bangi: Environmental Management Programme, Centre for Graduate Studies Universiti Kebangsaan Malaysia and Environmental Management Society (EMS) Malaysia, 222-234.

- Sharma, D.S.K., Mathew, D., Chan, N.W. and Wong, C.F. (2004) "Employment of Water Demand Management Measures for Effective Water Resources Management in Malaysia". In Jamaluddin Md. Jahi, Kadir Ariffin, Salmijah Surif and Shaharudin Idrus (Editors) *Facing Changing Conditions. Proceedings of the 2<sup>nd</sup> Bangi World Conference on Environmental Management*. Bangi: Environmental Management Programme, Centre for Graduate Studies Universiti Kebangsaan Malaysia and Environmental Management Society (EMS) Malaysia, 235-249.
- Radiah Yusof, Noraini Ismail, Chan, N.W. and Ab Latif Ibrahim (2004) "Squatters, Floodplain Occupance and Effects on Rivers: Some Experiences from Malaysia". In Jamaluddin Md. Jahi, Kadir Ariffin, Salmijah Surif and Shaharudin Idrus (Editors) *Facing Changing Conditions. Proceedings of the 2<sup>nd</sup> Bangi World Conference on Environmental Management*. Bangi: Environmental Management Programme, Centre for Graduate Studies Universiti Kebangsaan Malaysia and Environmental Management Society (EMS) Malaysia, 431-441.
- Sin, H.T. and Chan, N.W. (2004) "The Urban Heat Island Phenomenon in Penang Island: Some Observations during the Wet and Dry Season". In Jamaluddin Md. Jahi, Kadir Ariffin, Salmijah Surif and Shaharudin Idrus (Editors) *Facing Changing Conditions. Proceedings of the 2<sup>nd</sup> Bangi World Conference on Environmental Management*. Bangi: Environmental Management Programme, Centre for Graduate Studies Universiti Kebangsaan Malaysia and Environmental Management Society (EMS) Malaysia, 504-518
- Chan, N.W. (2004) Sustainable River Management in Malaysia: Involving All Stakeholders. In Aminuddin Ab. Ghani, Nor Azazi Zakaria, Rozi Abdullah and Mohd. Sanusi S. Ahmad (Editors) *Rivers '04 Proceedings of the 1<sup>st</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Issues & Challenges*. River Engineering and Urban Drainage Research Centre (REDAC), Engineering Campus, Universiti Sains Malaysia, 35-61.
- Chang, W.F., Chan, N.W., Hajar Abd Rahim and Khor Hung Teik (2004) Approaching Integrated Water Resources Management (IWRM) Via Smart-Partnerships with Government, Industry and Other NGOs – The Role of Water Watch Penang. In Aminuddin Ab. Ghani, Nor Azazi Zakaria, Rozi Abdullah and Mohd. Sanusi S. Ahmad (Editors) *Rivers '04 Proceedings of the 1<sup>st</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Issues & Challenges*. River Engineering and Urban Drainage Research Centre (REDAC), Engineering Campus, Universiti Sains Malaysia, 302-313.
- Sharma, D., Daria Mathew, Chan, N.W. and Lee, B.H. (2004) Catchment and Water Pollution Management for Protection of Rivers and Water Resources: Experiences from Malaysia. In Aminuddin Ab. Ghani, Nor Azazi Zakaria, Rozi Abdullah and Mohd. Sanusi S. Ahmad (Editors) *Rivers '04 Proceedings of the 1<sup>st</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Issues & Challenges*. River Engineering and Urban Drainage Research Centre (REDAC), Engineering Campus, Universiti Sains Malaysia, 375-393.
- Chan, N.W., Nor Azazi Zakaria, Aminuddin Ab Ghani and Tan Yen Lian (2004) Integrating Official and Traditional Flood Hazard Management in Malaysia. In Aminuddin Ab. Ghani, Nor Azazi Zakaria, Rozi Abdullah and Mohd. Sanusi S. Ahmad (Editors) *Rivers '04 Proceedings of the 1<sup>st</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Issues & Challenges*. River Engineering and Urban Drainage Research Centre (REDAC), Engineering Campus, Universiti Sains Malaysia, 409-419.
- Sathiamurthy, E. and Chan, N.W. (2005) Hydrodynamic Behaviour Change Due to Channel Modification at Rambai River Outlet, Juru River Basin, Penang. In Jamaluddin Md. Jahi, Kadir Ariffin, Azahan Awang, Kadaruddin Aiyub and Muhammad Rizal Razman (Ed) *Pengurusan Persekitaran 2005*. Bangi: Environmental Management Programme and Centre for Postgraduate Studies, Universiti Kebangsaan Malaysia, 15-27.

- Sin, H.T, Chan, N.W. and Wan Ruslan Ismail (2005) Variasi Reruang dan Masa Fenomena Pulau Haba dan Pulau Sejuk di Pulau Pinang. In Jamaluddin Md. Jahi, Kadir Arifin, Azahan Awang, Kadaruddin Aiyub and Muhammad Rizal Razman (Ed) *Pengurusan Persekitaran 2005*. Bangi: Environmental Management Programme and Centre for Postgraduate Studies, Universiti Kebangsaan Malaysia, 319-336.
- Lee, B.H. and Chan, N.W. (2005) Eko-pelancongan dan Orang Asli di Cameron Highland. In Jamaluddin Md. Jahi, Kadir Arifin, Azahan Awang, Kadaruddin Aiyub and Muhammad Rizal Razman (Ed) *Pengurusan Persekitaran 2005*. Bangi: Environmental Management Programme and Centre for Postgraduate Studies, Universiti Kebangsaan Malaysia, 519-526.
- Chan, N. W. (2005) Sustainable Water Use – An NGO Perspective. In *Proceedings of the National Conference and Exhibition on Sustainability, Malaysia 2005 (SM 2005)*. Kuala Lumpur: Malaysian Environmental NGOs (MENGOs). Published in CD Rom.
- Sathiamurthy, E. and Chan, N.W. (2005). "The application of GPS and remote sensing technology in hydrological modeling of a coastal floodplain: a case study of Rambai Valley, Penang." *Proc. 4<sup>th</sup> Malaysian Remote Sensing and GIS Conference and Exhibition*, Kuala Lumpur, 5 – 6 April 2005.
- Chan, N.W. and Nitivattananon V (2006) Gender Perspectives in Water Demand Management: Examples from Malaysia and Thailand. In Jamaluddin Md. Jahi, Kadir Arifin, Azahan Awang and Muhammad Rizal Razman (Editors) *Managing Changes. Proceedings 3<sup>rd</sup> Bangi World Conference On Environmental Management, 5-6 September 2006, Bangi, Malaysia*. Bangi: Environmental Management Programme, Centre for Graduate Studies, Universiti Kebangsaan Malaysia and Environmental Management Society (EMS) of Malaysia, 200-220.
- Stanfield, C., Kung, .H.T. and Chan, N.W. (2006) A Predictive Model of Lead Poisoning Risk In Shelby County. In Jamaluddin Md. Jahi, Kadir Arifin, Azahan Awang and Muhammad Rizal Razman (Editors) *Managing Changes. Proceedings 3<sup>rd</sup> Bangi World Conference on Environmental Management, 5-6 September 2006, Bangi, Malaysia*. Bangi: Environmental Management Programme, Centre for Graduate Studies, Universiti Kebangsaan Malaysia and Environmental Management Society (EMS) of Malaysia, 295-303.
- Chan, N.W. (2006) "Working Group 2: Identification of Support Mechanisms to Enhance Engagement of Communities in Effective Implementation of MEAs". Proseedings Bengkel Antarabangsa "Capacity Building for Implementation of the Convention of Biological Diversity for the 14 LDCs in the Asia-Pacific Region & Multilateral Environmental Agreements and the Role of Communities, 9-13 Oktober 2006, AIT Bangkok". Bangkok: AIT Extension and UNEP (In CD Rom)
- Chan, N.W. and Nitivattananon V (2006) "Effective Management of Water Resources Via Demand Management: Some Examples from Southeast Asia". In Sethaputra S and Promma K (Editors) *Proceedings of IHP International Symposium on Managing Water Supply for Growing Demand, Bangkok, Thailand, 16-20 October 2006*. Jakarta, UNESCO: IHP Technical Documents in Hydrology No 8, 23-38.
- Chan, N.W. and Nitivattananon V. (2006) "Water demand management for sustainable water resources management in Malaysia." *Proceedings of International Conference on Environment (ICENV 2006): Knowledge-based Environmental Management and Sustainable Development, Penang, 13-15 November 2006*. Penang: Universiti Sains Malaysia. Published in CD Rom (ISBN 983-3391-54-0)
- Chan, N.W., N.A. Zakaria, A.Ab. Ghani and Nitivattananon V. (2006) "Incorporating Rainfall Harvesting Mechanisms into Building Designs for Water Resources Management." *Proceedings of Regional Conference on Urban Water and Sanitation in Southeast Asian Countries, Vientianne, Lao PDR, 22-24 November 2006*. Pathumthani: Asian Institute of Technology, 173-184.
- Jamaluddin Aziz and Chan, N.W. (2006) "Water Watch Penang and Community Participation in Water Resource Management in Penang, Malaysia." *Proceedings of Regional Conference on Urban Water and Sanitation in Southeast Asian Countries, Vientianne, Lao PDR, 22-24 November 2006*. Pathumthani: Asian Institute of Technology, 291-302.

- Chan, N.W. and Nitivattananon V. (2006) "Women's Role in water Conservation in Malaysia." *Proceedings of Regional Conference on Urban Water and Sanitation in Southeast Asian Countries, Vientiane, Lao PDR, 22-24 November 2006*. Pathumthani: Asian Institute of Technology, 323-335.
- Chan, N.W. (2006) River catchment Awareness and Monitoring Programme for Pinang River, Penang State, Malaysia: Role of Water Watch Penang, Private Sector and Local Community. In *Proceedings of the International Symposium on Community Activities for the Conservation of Water Environment – Lessons Learnt from Community Activities*. Tokyo: Ministry of the Environment, Japan, 48-51.
- Chan, N.W. (2007) The Perbadanan Bekalan Air Pulau Pinang Sdn Bhd (PBAPP): A Good Example of Corporate Social Responsibility of a Private Water Company. In *Proceedings of International Forum on Water Environment Governance in Asia – Technologies and Institutional Systems for Water Environmental Governance*, Ministry of Environment, Japan, Tokyo, 19-25.
- Yun, D., Cai, S.M., We, X.U., Kung, H.T., He, B., Xue, H.P., Wu, S.J. and Chan, N.W. (2007) "A Study of Historical Changes of Lakes in Jiangnan Plain and Dongting Lake Area in the Middle Reaches of the Yangtze". In Moh Sanusi S. Ahmad, Rozi Abdullah, Aminuddin Ab Ghani, Nor Azazi Zakaria, Chang C.K., Stephen Rundi Utom, Mohd Yakup Kari and Hitler E.D. (Editors) *Proceedings of 2<sup>nd</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Solutions Towards Sustainable River Basins*. Penang: REDAC, 77-82.
- Chan, N.W. and Chang, W.F. (2007) "Non-Governmental Organisations and Community Participation in River Management in Penang, Malaysia." In Moh Sanusi S. Ahmad, Rozi Abdullah, Aminuddin Ab Ghani, Nor Azazi Zakaria, Chang C.K., Stephen Rundi Utom, Mohd Yakup Kari and Hitler E.D. (Editors) *Proceedings of 2<sup>nd</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Solutions Towards Sustainable River Basins*. Penang: REDAC, 83-89.
- Chan, N.W. (2007) Catchment Protection as a Key towards Sustainability of Water Resources in Malaysia. *Proceedings of the Conference on Managing Challenges towards Sustainable Water Resources & Environment*, 26-27 March 2007, Grand BlueWave Hotel, Shah Alam. Published online on the ISIS website ([http://www.isis.org.my/html/events/events\\_materials.htm](http://www.isis.org.my/html/events/events_materials.htm) 21/09/07)
- Chan, N.W. (2007) A Comparative Study of Water Conservation in Hotels in Georgetown (Malaysia) and Pattaya (Thailand). *Proceedings of the 3<sup>rd</sup> Southeast Asia Water Forum*, 22-26 October 2007, Kuala Lumpur. Kuala Lumpur: Jabatan Pengairan dan Saliran Malaysia and Malaysian Water Partnership. Published in CD Rom.
- Chan, N.W. (2008) Penawaran dan Permintaan Air di Bandar: Isu-Isu Pengurusan Air dan Cabaran dalam Kelestarian Bandar. In Jamaluddin Md Jahi, Kadaruddin Aiyub, Kadir Arifin, Muhammad Rizal Razman, Azahan Awang, Abdul Samad Hadi, Abdul Hadi Harman Shah and Laily Bin Din (Eds) *Ekosistem Bandar Perindustrian – Prosiding Bengkel Ekosistem Bandar Perindustrian, Putrajaya, 12-13 Februari 2008*, 15-30.
- Chan, N.W. (2008) Role of Center for Education and Training in Renewable Energy and Energy Efficiency (CETREE) in Awareness, Education and Training towards Energy Efficiency and Renewable Energy in Malaysia. In *Proceedings Industrial Applications of Energy Systems*, Faculty of Engineering, Sohar University, Sultanate of Oman, 1-2 April 2008 (In CD Rom Format).
- Barrow, C.J., Chan, N.W. and Tarmiji Masron (2008) Issues and Challenges of Sustainable Agriculture in the Cameron Highlands. In Jamaluddin Md Jahi, Kadaruddin Aiyub, Muhammad Rizal Razman, Kadir Arifin and Azahan Awang (Eds) *Human Habitat and Environmental Change*. Proceedings. Bangi: Institute of the Malay World and Civilization (ATMA), Universiti Kebangsaan Malaysia and Environmental Management Society, Malaysia, 261-277.
- Chan, N.W. (2008) Ecotourism and Environmental Conservation of Small Islands in the East Coast of Peninsular Malaysia. In Jamaluddin Md Jahi, Kadaruddin Aiyub, Muhammad Rizal Razman, Kadir Arifin and Azahan Awang (Eds) *Human Habitat and Environmental Change*. Proceedings. Bangi: Institute of the Malay World and Civilization (ATMA), Universiti Kebangsaan Malaysia and Environmental Management Society, Malaysia, 278-288.



- Chan, N.W. (2008) Ecotourism and Environmental Conservation of Small Islands in the East Coast of Peninsular Malaysia. In Jamaluddin Md Jahi, Kadaruddin Aiyub, Muhammad Rizal Razman, Kadir Arifin and Azahan Awang (Eds) *Human Habitat and Environmental Change*. Proceedings. Bangi: Institute of the Malay World and Civilization (ATMA), Universiti Kebangsaan Malaysia and Environmental Management Society, Malaysia, 278-288.
- Hong, C.W. and Chan, N.W. (2008) A Conceptual Study on Sustainable National park management Model by Using DRSIR Framework: The Case of Penang National Park. In Jamaluddin Md Jahi, Kadaruddin Aiyub, Muhammad Rizal Razman, Kadir Arifin and Azahan Awang (Eds) *Human Habitat and Environmental Change*. Proceedings. Bangi: Institute of the Malay World and Civilization (ATMA), Universiti Kebangsaan Malaysia and Environmental Management Society, Malaysia, 354-361.
- Chan, N.W. (2008) Tourist Perception of the Environment in Three Small Island Resorts Off the East Coast of Peninsular Malaysia. In *Proceedings of the International Conference on Environment 2008 – Environmental Management and Technologies Towards Sustainable Development, 15-17 December 2008, Penang, Malaysia* (In CD Rom).
- Barrow, C.J., Chan, N.W. and Clifton, J. (2009) *Challenges and potentials of ecotourism towards sustainable development in Cameron Highlands, Malaysia*. Proceedings of the 2<sup>nd</sup> National Conference on Society, Space & Environment 2008 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. In CD Rom.
- Hong, C.W. and Chan, N.W. (2009) *A conceptual study on sustainable national park management modelling by using the driving force-pressure-state-impact-response (dpsir) framework: the case of Penang National Park*. Proceedings of the 2<sup>nd</sup> National Conference on Society, Space & Environment 2009 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. In CD Rom.
- Chan, N.W., Barrow, C.J. and Tarmiji Masron (2009) *Characteristics and challenges of sustainable farming in the Cameron Highlands*. Proceedings of the 2<sup>nd</sup> National Conference on Society, Space & Environment 2009 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. In CD Rom.
- Ang, S.C. and Chan, N.W. (2009) *The potentials, threats and challenges in sustainable development of Belum-Temengor rainforest complex*. Proceedings of the 2<sup>nd</sup> National Conference on Society, Space & Environment 2009 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. In CD Rom.
- Noor Asyhikin Binti Abdul Razak and Chan, N.W. (2009) *Level of Awareness, Commitment and Perception of Undergraduate Students in Public Universities in Malaysia towards the Environment; Preliminary Findings*. Proceedings of the 2<sup>nd</sup> National Conference on Society, Space & Environment 2009 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. In CD Rom.
- Tan, C.H., Norizan Md Nor and Chan, N.W. (2009) *Pelancongan Bandar Georgetown, Pulau Pinang: Satu Kajian Persepsi Residen Dan Pelancong Tentang Industri Pelancongan Bandar*. Proceedings of the 2<sup>nd</sup> National Conference on Society, Space & Environment 2008 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. In CD Rom.
- Chan, N.W. (2009) Issues and Challenges of Managing Natural Heritage in Penang National Park, Malaysia. In Badaruddin Mohamed and Morshidi Sirat (Editors) *Proceedings of 2<sup>nd</sup> National Symposium on Tourism Research – Theories & Applications*. Penang: Cluster of Tourism Research (TRC) Social Transformation Platform, Universiti Sains Malaysia, Penang, 111-123.

- Ang, S.K. and Chan, N.W. (2009) *The Potentials and Challenges of Salt Lick Tourism*. In Badaruddin Mohamed and Morshidi Sirat (Editors) Proceedings of 2<sup>nd</sup> National Symposium on Tourism Research – Theories & Applications. Penang: Cluster of Tourism Research (TRC) Social Transformation Platform, Universiti Sains Malaysia, Penang, 55-66.
- Chan, N.W. (2009) *Agua turbulentas*. In Dialogos Del Agua, Zaragoza: Heraldo De Aaragon, p.37.
- Chan, N.W. (2010) *The Forgotten Heritages of Penang, Malaysia: Potentials, Threats and Challenges for Conservation*. In Crispin S., Dunn A., Fishwick S., Franklin A., Hanson D., Reiser D., Shipway R., Wells M. and Baxter C. (Editors) Proceedings of the 20th Annual Conference, Council for Australian University, Tourism and Hospitality Education (CAUTHE) "Challenging the Limits." Hobart: © CAUTHE 2010, ISBN: 978 1 86295 560 8, In CD Rom.
- Chan, N.W. (2010) *Kesan bencana banjir di Malaysia: Keperluan perancangan pra-bencana dan pengurusan proaktif*. Proceedings of 2nd National Conference on Environment & Health 2010, 17 -18 March 2010, Kota Bharu. Kota Bharu: School of Health Sciences, Universiti Sains Malaysia: 197-204.
- Chan, N.W. (2010) *Unsustainable Development and Environmental Change in Cameron Highlands*. In Teng T.T., Yusri Yusup and Fera Fizani Ahmad Fizri (Editors) Proceedings of The 2<sup>nd</sup> International Conference on Environmental Research & Technology "Research and Innovation towards Environmental Sustainability, 2-4 June 2010, Penang, Malaysia. Penang: School of Industrial Technology, Universiti Sains Malaysia: 546-552.
- Chan, N.W. (2010) *Impacts of Human Habitat Development on the Environment – Challenges and the Way Forward*. Keynote Paper in Jamaluddin Md. Jahi, Muhammad Rizal Razman, Azahan Awang, Kadaruddin Aiyub and Kadar Ariffin (Editors) Human Habitat Transformation and Environmental Change, Proceedings of The 2<sup>nd</sup> International Conference on Human Habitat and Environment, 15-16 June 2010, Putra Nilai, Negeri Sembilan. Bangi: Institute of the Malay World and Civilisation (ATMA), UKM and Environmental Management Society (EMS) Malaysia, 3-24.
- Hong, C.W. and Chan, N.W. (2010) *Evaluation of Visitors' Environmental Perception and Willingness to pay for Conservation of Penang National Park Components*. In Jamaluddin Md. Jahi, Muhammad Rizal Razman, Azahan Awang, Kadaruddin Aiyub and Kadar Ariffin (Editors) Human Habitat Transformation and Environmental Change, Proceedings of The 2<sup>nd</sup> International Conference on Human Habitat and Environment, 15-16 June 2010, Putra Nilai, Negeri Sembilan. Bangi: Institute of the Malay World and Civilisation (ATMA), UKM and Environmental Management Society (EMS) Malaysia, 369-376.
- Chan, N.W. (2010) Addressing Flood Hazards via Environmental Humanities in Malaysia. In Deni Efizon, Jamaluddin Md Jahi, Muhammad Rizal Razman, Sofyan Husein Siregar, Dewita Bukhari, Norfrizal, Desmelati and Asmika Harnalin Simarmata (Editors) *Proceedings of the International Seminar Ecology, Human Habitat and Environmental Change*. Pekanbaru: Fakultas Perikanan dan Ilmu Kelautan Universitas Riau and Institute Alam dan tamadun Melayu (ATMA) Universiti Kebangsaan Malaysia, 46-57.
- Hong, C.W. and Chan, N.W. (2010) SWOT and TOWS Analysis of Penang national park for Strategic Ecotourism Management. In Efizon, D., Jamaluddin Md Jahi, Muhammad Rizal Razman, Sofyan Husein Siregar, Dewita Bukhari, Norfrizal, Desmelati and Asmika Harnalin Simarmata (Editors) *Proceedings of the International Seminar Ecology, Human Habitat and Environmental Change*. Pekanbaru: Fakultas Perikanan dan Ilmu Kelautan Universitas Riau and Institute Alam dan tamadun Melayu (ATMA) Universiti Kebangsaan Malaysia, 401-412.
- \ Chan, N.W. (2010) *Impacts of Human Habitat Development on the Environment – Challenges and the Way Forward*. Keynote Paper in Jamaluddin Md. Jahi, Muhammad Rizal Razman, Azahan Awang, Kadaruddin Aiyub and Kadar Ariffin (Editors) Human Habitat Transformation and Environmental Change, Proceedings of The 2<sup>nd</sup> International Conference on Human Habitat and Environment, 15-16 June 2010, Putra Nilai, Negeri Sembilan. Bangi: Institute of the Malay World and Civilisation (ATMA), UKM and Environmental Management Society (EMS) Malaysia, 3-24.

- Hong, C.W. and Chan, N.W. (2010) *Evaluation of Visitors' Environmental Perception and Willingness to pay for Conservation of Penang National Park Components*. In Jamaluddin Md. Jahi, Muhammad Rizal Razman, Azahan Awang, Kadaruddin Aiyub and Kadar Ariffin (Editors) *Human Habitat Transformation and Environmental Change, Proceedings of The 2<sup>nd</sup> International Conference on Human Habitat and Environment, 15-16 June 2010, Putra Nilai, Negeri Sembilan*. Bangi: Institute of the Malay World and Civilisation (ATMA), UKM and Environmental Management Society (EMS) Malaysia, 369-376.
- Chan, N.W. (2010) *Addressing Flood Hazards via Environmental Humanities in Malaysia*. In Deni Efizon, Jamaluddin Md Jahi, Muhammad Rizal Razman, Sofyan Husein Siregar, Dewita Bukhari, Norfrizal, Desmelati and Asmika Harnalin Simarmata (Editors) *Proceedings of the International Seminar Ecology, Human Habitat and Environmental Change*. Pekanbaru: Fakultas Perikanan dan Ilmu Kelautan Universitas Riau and Institute Alam dan tamadun Melayu (ATMA) Universiti Kebangsaan Malaysia, 46-57.
- Hong, C.W. and Chan, N.W. (2010) *SWOT and TOWS Analysis of Penang national park for Strategic Ecotourism Management*. In Efizon, D., Jamaluddin Md Jahi, Muhammad Rizal Razman, Sofyan Husein Siregar, Dewita Bukhari, Norfrizal, Desmelati and Asmika Harnalin Simarmata (Editors) *Proceedings of the International Seminar Ecology, Human Habitat and Environmental Change*. Pekanbaru: Fakultas Perikanan dan Ilmu Kelautan Universitas Riau and Institute Alam dan tamadun Melayu (ATMA) Universiti Kebangsaan Malaysia, 401-412.
- Chan, N.W. (2010) *Challenges of Conservation of natural heritage for Ecotourism in Kinabalu Park, Malaysia*. Proceedings of the 11<sup>th</sup> International Joint World Cultural Tourism Conference "Cultural Tourism: Beyond the Leap", 12-14 November 2010, Hangzhou, China. Hangzhou: World Cultural Tourism Association, 585-796 (In CD Rom).
- Chan, N.W. (2010) *The Environmental Humanities Initiative in the School of Humanities, Universiti Sains Malaysia*. In N.W. Chan (Editor) *Proceedings of the First National Seminar on Environmental Humanities*. Penang: Social Transformation Platform, Universiti Sains Malaysia, 10-19.
- Ang, S.C. and Chan, N.W. (2010) *Roadkills: An Indicator of More Development but Less Humanity*. In N.W. Chan (Editor) *Proceedings of the First National Seminar on Environmental Humanities*. Penang: Social Transformation Platform, Universiti Sains Malaysia, 38-45.
- Chan, N.W. (2010) *Changing Water Behaviour and Human Behaviour: Keys to Attaining Sustainable Water Resources Management*. In N.W. Chan (Editor) *Proceedings of the First National Seminar on Environmental Humanities*. Penang: Social Transformation Platform, Universiti Sains Malaysia, 93.
- Hong, C.W. and Chan, N.W. (2010) *Influence of Stakeholders on the Environmental Management of the Penang National Park*. In Chan N.W. (Editor) *Proceedings of the First National Seminar on Environmental Humanities*. Penang: Social Transformation Platform, Universiti Sains Malaysia, 152.
- Chuah, C.Y. and Chan, N.W. (2010) *Issues and Challenges of Environmental Education in Primary Schools in Penang: Some Preliminary Results*. In Chan N.W. (Editor) *Proceedings of the First National Seminar on Environmental Humanities*. Penang: Social Transformation Platform, Universiti Sains Malaysia, 152-159.
- Ong, K.S. and Chan, N.W. (2010) *Plastic Bag: Human's Invention, Problem and Solution Through Policy Implementation*. In Chan
- N.W. (Editor) *Proceedings of the First National Seminar on Environmental Humanities*. Penang: Social Transformation Platform, Universiti Sains Malaysia, 160-171.

- Chan, N.W. (2011) Tasik Harapan: Multi-Purpose Use as Retention Pond for Flood Control, Recreation, Research and Community Participation. In *Proceedings of The 3<sup>rd</sup> National Conference on Geography and Environment, Department of Geography and Environment, Universiti Pendidikan Sultan Idris (UPSI)* (In CD Rom).
- Chan, N.W. (2011) "Water Efficiency Management: for Business and Domestic Sectors towards a Green Economy". Proceedings of the Seminar on "Narmada-The Lifeline", 22 March 2011, Gandinagar (Gujarat), India (In CD Rom).
- Sharifah Meryam binti Shareh Musa dan Chan, N.W. (2011) Pengurusan Banjir di Malaysia: Pendekatan Baru Berfokus Manual Saliran Mesra Alam (MSMA). In Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Deni Efizon, Bustari Hasan, Kadaruddin Aiyub, Azahan Awang dan Syarifah Zarina Syed Zakaria (Editors) *Perubahan Persekitaran Di Alam Melayu: Prosiding Seminar Antarabangsa Ke-4 Ekologi, Habitata Manusia & Perubahan Persekitaran di Alam Melayu, Universiti Kebangsaan Malaysia, 23-24 May 2011, Universiti Kebangsaan Malaysia, 896-904.*
- Chan, N.W. (2011) Challenges of Conserving Neglected Heritage in Penang, Malaysia. In Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Deni Efizon, Bustari Hasan, Kadaruddin Aiyub, Azahan Awang dan Syarifah Zarina Syed Zakaria (Editors) *Perubahan Persekitaran Di Alam Melayu: Prosiding Seminar Antarabangsa Ke-4 Ekologi, Habitata Manusia & Perubahan Persekitaran di Alam Melayu, Universiti Kebangsaan Malaysia, 23-24 May 2011, Universiti Kebangsaan Malaysia, 917-927.*
- Chan, N.W. (2011) Addressing the Fundamental Human aspects of Water Security via Environmental Humanities. In *Proceedings of the International Conference on Humanities 2011 "Empowering the Humanities in Upholding Heritage, Knowledge, People and Nature, 14-16 June 2011 Penang, Malaysia. Penang, School of Humanities, Universiti Sains Malaysia, 1- 12* (In CD Rom).
- Chan, N.W., Ang, S.C., Hong, C.W., Chuah, C.Y. and Ong, K.S. (2011) The Role of Water Watch Penang in Protecting Water Resources in Malaysia. Proceedings of the National Conference on Society, Space and Environment (MATRA 2011), 16-17 November 2011, Penang, 154-165 (In CD Rom).
- Ang, S.C., Chan, N.W. and Jabil Mapjabil (2011) Salt Licks and Adventurous Tourists: A Recipe for Sustainable Ecotourism. Proceedings of the National Conference on Society, Space and Environment (MATRA 2011), 16-17 November 2011, Penang, 29-47 (In CD Rom).
- Muhammad Riza Adha Damanik and Chan, N.W. (2011) Environmental Issues Caused by Brackish-Water Shrimp Farming Activities on the Coast of Lampung, Indonesia: The Case of Responsible Shrimp Farming. Proceedings Persidangan Kebangsaan Masyarakat, Ruang dan Alam Sekitar (MATRA 2011), 16-17 November 2011, Pulau Pinang, 121-129 (In CD Rom).
- Nur Aili Hanim Bt Hanafiah and Chan, N.W. (2011) The Occurrence of Urban Heat Island and its Effect on Human Thermal Discomfort in Penang Island. Proceedings Persidangan Kebangsaan Masyarakat, Ruang dan Alam Sekitar (MATRA 2011), 16- 17 November 2011, Pulau Pinang, 183-196 (In CD Rom).
- Sharifah Meryam Shareh Musa, Chan, N.W. and Haryati Shafii (2011) Amalan Semasa dan Pendekatan Baru dalam Pengurusan Banjir di Malaysia. Proceedings Persidangan Kebangsaan Masyarakat, Ruang dan Alam Sekitar (MATRA 2011), 16-17 November 2011, Pulau Pinang, 281-296 (In CD Rom).
- Jabil Mapjabil, Arsad Alwi and Chan, N.W. (2011) Persepsi Komuniti Tempatan terhadap Pelancongan Warisan di Bahagian Utara Semennanjung Malaysia. Proceedings Persidangan Kebangsaan Masyarakat, Ruang dan Alam Sekitar (MATRA 2011), 16-17 November 2011, Pulau Pinang, 102-111 (In CD Rom).
- Chan, N.W. (2012) "Smart Partnerships in Water Efficiency Management towards a Green Economy". In Proceedings of the 2<sup>nd</sup> General Convention International Academic Consortium for Sustainable Cities (IACSC 2011), 10-11 September 2011, Universiti Sains Malaysia, Penang: 79-95.

- Chan, N.W. (2012) Awareness of environmental issues and reality in Malaysia. Proceedings of the International Conference on Environment and Health, 6-7 June 2012, Penang, Malaysia, 1-14 (In CD Rom).
- Chan, N.W. and Azreen Rozainee Abdullah (2012) Potentials, Threats and Challenges to Ecotourism in Belum Temengor Forest Complex (BTFC), Malaysia. Proceedings Regional Symposium on Rural Tourism: Scaling up Community-Based Ecotourism, Royal University of Phnom Penh, CAMBODIA, 18<sup>th</sup>-19<sup>th</sup> MAY 2012, 1-10 (In CD Rom).
- Ang, S.C. and Chan, N.W. (2012) Rainwater harvesting: Concept and Case Study in School of Humanities, Universiti Sains Malaysia. In Sohaimie Abdul Aziz and Nawal Fadhil Abbas (Editors) Proceedings of the Inaugural Postgraduate Research Seminar. Penang: School of Humanities, Universiti Sains Malaysia and Postgraduate Student Club, School of Humanities, Universiti Sains Malaysia, 117-127.
- Ranjan Roy and Chan, N.W. (2012) Determining the Factors of Rice Farming Sustainability in Bangladesh: Application of the Delphi technique. In Sohaimie Abdul Aziz and Nawal Fadhil Abbas (Editors) Proceedings of the Inaugural Postgraduate Research Seminar. Penang: School of Humanities, Universiti Sains Malaysia and Postgraduate Student Club, School of Humanities, Universiti Sains Malaysia, 128-143.
- Hong, C.W. and Chan, N.W. (2012) The Need for Decentralisation Through Stakeholders' Participation for Sustainable Penang National Park Management. In Jamaluddin Md Jahi, Muhammad Rizal Razman, Kadir Ariffin, Kadaruddin Aiyub and Azahan Awang (Editors) Human Habitat and Environmental Transformation – Proceedings of the 3<sup>rd</sup> International Conference on Human Habitat and Environment in the Malay World. Bangi: Institute of the Malay World and Civilisation and Environmental Management Society (EMS) Malaysia, 397-408.
- Chan, N.W. (2012) Transforming School of Humanities Universiti Sains Malaysia into an Example of a Best Management Practice in Water Demand Management. *International Proceedings of Chemical, Biological & Environmental Engineering*. ISBN 978-981-07-4883-8. 161-165.
- Azreen Rozainee Abdullah, Chan Ngai Weng and Badaruddin Mohamed (2013) Potentials and Challenges of Involving Indigenous Communities in Ecotourism in Belum-Temenggor Forest Complex, Perak, Malaysia. In Badaruddin Mohamed and Azizi Bahauddin (Editors) Proceedings of International Conference on Tourism Development: Building the Future of Tourism. Penang: Sustainable Tourism Research Cluster, 332-344. ISBN:978-967-394-133-9.
- Phang, W.L. and Chan, N.W. (2013) A Study of Consumers' Awareness, Concern and Willingness to Pay in Water Issues in Malaysia. Proceedings of *Persidangan Kebangsaan Geografi & Alam Sekitar Kali Ke 4 - Geografi & Alam Sekitar Dalam Pembangunan dan Transformasi Negara*. Universiti Pendidikan Sultan Idris. ISBN 978-983-2063-68-3. 181-189.
- Roy, R. and Chan, N.W. (2013) Aus Rice Farming in Bangladesh: A Review of Production Trends and Assessment of Sustainability. Proceedings of *Persidangan Kebangsaan Geografi & Alam Sekitar Kali Ke 4 - Geografi & Alam Sekitar Dalam Pembangunan dan Transformasi Negara*. Universiti Pendidikan Sultan Idris. ISBN 978-983-2063-68-3. 363-370.
- Lai, C.H., Chan, N.W. and Nor Azazi Zakaria (2013) Non- Revenue Water Management in Malaysia: A Review of Selected Water Service Providers in Malaysia. Proceedings of *Persidangan Kebangsaan Geografi & Alam Sekitar Kali Ke 4 - Geografi & Alam Sekitar Dalam Pembangunan dan Transformasi Negara*. Universiti Pendidikan Sultan Idris. ISBN 978-983-2063-68-3. 371-376.

- Ang Sek Chuan, Chan Ngai Weng, Mashhor Mansor, Narimah Samat and Lai Sai Hin (2013) Cabaran Dalam Kemampanan Pengurusan Sungai di Malaysia. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 96-106 (ISBN 978-983-2457-63-3).
- Chan Ngai Weng, Asyirah Abdul Rahim, Narimah Samat & Jamaluddin Md Jahi (2013) Masalah Pembangunan Tanah Tinggi dan Pengurusannya di Malaysia. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 1-20 (ISBN 978-983-2457-63-3).
- Nur Aili Hanim Hanafiah dan Chan Ngai Weng (2013) Kajian Keprihatinan Awam Terhadap Pulau Haba Bandar dan Amalan Mereka Terhadap Pengurusan Tekanan Haba di Pulau Pinang. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 204-208 (ISBN 978-983-2457-63-3).
- Hong Chern Wern, Chan Ngai Weng dan Badaruddin Mohamed (2013) Ancaman dan Cabaran Dalam Pembangunan Lestari Taman Negara Pulau Pinang. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 15-27 (ISBN 978-983-2457-63-3).
- Lai Chee Hui, Chan Ngai Weng, Suhaimi Abdul-Talib & Jamaluddin Md Jahi (2013) Ke Arah Pengurusan Air Mampan: Kajian Awal Terhadap Cabaran Untuk Mengurangkan Air Tidak Berhasil di Malaysia. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 107-116 (ISBN 978-983-2457-63-3).
- Phang Wai Ling, Chan Ngai Weng, Aminuddin Abd Ghani, Nor Azazi Zakaria, Jamaluddin Md Jahi & Mazlin Mokhtar (2013) Tahap Kesedaran dan Amalan Jimat Air di Kalangan Pengguna Domestik di Pulau Pinang. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 126-135 (ISBN 978-983- 2457-63-3).
- Sato, T., Hong, C.W., Ao, M., Badaruddin Mohamed & Chan, N.W. (2013) Kajian Perbandingan Isu dan Cabaran Ekopelancongan di Taman Negara Pulau Pinang dan Taman Kinabalu, Malaysia. Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMa), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 588-596 (ISBN 978-983-2457-63-3).

- Syarifah Meryam Shareh Musa, Chan Ngai Weng, Ku Ruhana Ku Mahamud & Mohd Zaini Abd. Karim (2013) Faktor Polisi dan Tindakan Pengurusan Banjir Dalam Mempengaruhi Keberkesanan Pelaksanaan Manual Saliran Mesra Alam (MSMA). Dalam Jamaluddin Md. Jahi, Muhammad Rizal Razman, Kadir Arifin, Zuliskandar Ramli, Abdullah Sulaiman dan Emrizal (Penyunting) *Prosiding Seminar Serantau Ke-2 Pengurusan Persekitaran di Alam Melayu, Pekanbaru, Provinsi Riau, 6-7 Mei 2013*. Bangi: Institut Alam dan Tamadun Melayu (ATMA), Universitas Islam Riau dan Persatuan Pengurusan Persekitaran Malaysia, 447-459 (ISBN 978-983-2457-63-3).
- Lai Chee Hui, Phang Wai Leng & Chan Ngai Weng (2013) A Study of Non- Revenue Water Management in Penang as an Example of Good Water Governance. In Roosfa Hashim and Abdul Ghafar Ismail (Editors) *Penyelidikan Pemacu Pembangunan Negara: Prosiding Seminar Hasil Penyelidikan Sektor Pengajian Tinggi Ke-3 2013 Sains Sosial dan Kemanusiaan Jilid 2*.
- Putrajaya: Kementerian Pendidikan Malaysia, 1007-1015 (ISBN 978-967-0334-79-0).
- Phang Wai Leng, Chan Ngai Weng, Lai Chee Hui & Jamaluddin Md Jahi (2013) Tingkah Laku Pengguna Air Domestik pada Penggunaan Air Mengikut Kawasan. In Roosfa Hashim and Abdul Ghafar Ismail (Editors) *Penyelidikan Pemacu Pembangunan Negara: Prosiding Seminar Hasil Penyelidikan Sektor Pengajian Tinggi Ke-3 2013 Sains Sosial dan Kemanusiaan Jilid 2*.
- Putrajaya: Kementerian Pendidikan Malaysia, 1239-1247 (ISBN 978-967-0334-79-0).
- Zakaria, N.A., Ab. Ghani, A., Abdul Talib, S., Chan, N.W. & Mohamed Desa, M.N (2013) Urban Water Cycle Processes, Management, and Societal Interactions: Crossing from Crisis to Sustainability. *World Environmental and Water Resources Congress 2013*: 1240-1246. DOI: 10.1061/9780784412947.122.
- Ang Sek Chuan & Chan Ngai Weng (2013) The business of littering: a case study on waterways in Malaysia. Proceedings IACSC 2012 The 3rd International Academic Consortium for Sustainable Cities Symposium, 8 September 2012 Thailand. Bangkok: Thammasat University, p152.
- Chan Ngai Weng (2013) Managing urban flood hazards in Malaysia: emerging issues and challenges. Proceedings IACSC 2012 The 3rd International Academic Consortium for Sustainable Cities Symposium, 8 September 2012 Thailand. Bangkok: Thammasat University, p154-159.
- Chern-Wern HONG, Masazumi AO and Ngai-Weng CHAN (2013) The role and challenges of Penang National Park in the sustainable development of Penang. Proceedings IACSC 2012 The 3rd International Academic Consortium for Sustainable Cities Symposium, 8 September 2012 Thailand. Bangkok: Thammasat University, p173-179.
- Phang Wai Leng, Chan Ngai Weng & Lariyah Mohd Sidek (2013) Pengurusan penawaran ir dan pengurusan permintaan air di Malaysia: peranan kerajaan, organisasi bukan kerajaan dan orang awam. Prosiding Seminar Antarabangsa Ke-6 Ekologi, Habitat Manusia & Perubahan Persekitaran di Alam Melayu. ISBN 978-983-2457-66-4. © Institut Alam dan Tamadun Melayu (ATMA), UKM, ISBN 978-983-2457-66-4, 220-226.
- Lai Chee Hui, Chan Ngai Weng, Nor Azazi Zakaria & Jamaluddin Md Jahi (2013) Peranan orang awam dalam pengurangan kehilangan air sebenar dari sistem pembekalan air di Pulau Pinang. Prosiding Seminar Antarabangsa Ke-6 Ekologi, Habitat Manusia & Perubahan Persekitaran di Alam Melayu. ISBN 978-983-2457-66-4. © Institut Alam dan Tamadun Melayu (ATMA), UKM, ISBN 978-983-2457-66-4, 227-234.
- Chan NW, Lai CH, Phang WL, Ang SC, Ranjan Roy, Sharifah Meryam & Hong CW (2013) Pendekatan Libatsama dalam Pengurusan Air di Malaysia. In Wan Mohd Muhiyuddin Wan Ibrahim, Zullyadini A. Rahaman, Norizan Md. Nor, Zikri Muhammad, Jabil Mapjabil and Ruslan Rainis (Editors) Proceedings of the National Conference on Society, Space & Environment (MATRA 2013). Penang: Geography Section USM, 304-320.

- Mohammad Ghazi Hj. Ismail, Chan N W and Narimah Samat (2013) Kajian Efisiensi Pengurusan Air Tidak Berhasil (NRW) Dalam Meningkatkan Sekuriti Bekalan Air di Tendong, Jajahan pasir Mas, Kelantan, Malaysia. In Wan Mohd Muhiyuddin Wan Ibrahim, Zullyadini A. Rahaman, Norizan Md. Nor, Zikri Muhammad, Jabil Mapjabil and Ruslan Rainis (Editors) Proceedings of the National Conference on Society, Space & Environment (MATRA 2013). Penang: Geography Section USM, 321-330.
- Lai C H and Chan N W (2013) Non-Revenue Water Reduction as a Tool of Water Demand and Supply Management: A Case Study in Penang State. In Wan Mohd Muhiyuddin Wan Ibrahim, Zullyadini A. Rahaman, Norizan Md. Nor, Zikri Muhammad, Jabil Mapjabil and Ruslan Rainis (Editors) Proceedings of the National Conference on Society, Space & Environment (MATRA 2013). Penang: Geography Section USM, 331-336.
- Phang W L, Chan N W & Mazlin Mokhtar (2013) Domestic Water Consumers' Perception and Assessment of Penang Water Supply Corporation. In Wan Mohd Muhiyuddin Wan Ibrahim, Zullyadini A. Rahaman, Norizan Md. Nor, Zikri Muhammad, Jabil Mapjabil and Ruslan Rainis (Editors) Proceedings of the National Conference on Society, Space & Environment (MATRA 2013). Penang: Geography Section USM, 337-343.
- Ang S C, Chan N W & Narimah Samat (2013) Management of Upper Juru River Using Biological Water Quality Index. In Wan Mohd Muhiyuddin Wan Ibrahim, Zullyadini A. Rahaman, Norizan Md. Nor, Zikri Muhammad, Jabil Mapjabil and Ruslan Rainis (Editors) Proceedings of the National Conference on Society, Space & Environment (MATRA 2013). Penang: Geography Section USM, 368-375.
- Sharifah Meryam Shareh Musa, Chan N W and Wan Ruslan Wan Ismail (2013) Kejadian Banjir di Daerah Batu Pahat, Johor dari Faktor Fizikal dan Pembangunan Guna Tanah. In Wan Mohd Muhiyuddin Wan Ibrahim, Zullyadini A. Rahaman, Norizan Md. Nor,
- Zikri Muhammad, Jabil Mapjabil and Ruslan Rainis (Editors) Proceedings of the National Conference on Society, Space & Environment (MATRA 2013). Penang: Geography Section USM, 395-409.
- Chan N W and Badaruddin Mohamed (2013) Tourism Development and the Environment in Pangkor Island: A Study on Tourists' Perception. In Proceedings of the 3rd Regional Conference on Tourism Research. Penang: Sustainable Tourism Research Cluster (STRC) Universiti Sains Malaysia, 1-9 (In CD Rom).
- Chan N W (2013) Green Technology in the Water Sector as an Emerging Industry in Malaysia. Abstract published in Proceedings of the BIT's 1<sup>st</sup> International Conference on Emerging Industries. Shenzhen: BIT Congress Inc.
- Lai Chee Hui, Chan Ngai Weng and Phang Wai Ling (2013) Learning from the Penang River Education Programme: A Case Study of University Students' Involvement in Community Water Management. Abstract published in Book of Abstracts, Universiti Community Engagement Conference 2013, Padang. Jointly organised by BJIM USM, APUCEN and Universiti Andalas, 46.
- Ranjan Roy and Chan Ngai Weng (2014) Understanding governmental, institutional and political context of water resource management. In Proceedings of the 4<sup>th</sup> International Conference on Human Habitat & Environment 2014, 5-6 May 2014, Universiti Kebangsaan Malaysia, Bangi. In CD Rom.
- Chan Ngai Weng, Badaruddin Mohamed and Christopher J Barrow (2014) Challenges in Managing Sustainable Development in Cameron Highlands, Malaysia. Proceedings of the 3<sup>rd</sup> International Conference on Economics and Social Sciences, ICESS-2014, 21-22 June 2014, Durban University of Technology, Durban, 310-319 [ISSN: 2307-7549].
- Ang Sek Chuan, Chan Ngai Weng and Narimah Samat (2014) Is Cutting Down Wayside Trees the Correct Strategy in Reducing Mega Storm Damage in Penang, Malaysia? In Proceedings IACSC 2013, The 4th International Academic Consortium for Sustainable Cities Consortium. September 6-7 2013, Manila. University of Philippines, Manila, 232-242. ISSN 2362-9010.



- Chan Ngai Weng (2014) University Sains Malaysia's Sustainability Agenda. In Proceedings IACSC 2013, The 4th International Academic Consortium for Sustainable Cities Consortium. September 6-7 2013, Manila. University of Philippines, Manila, 243. ISSN 2362-9010.
- Hong C.W., Sato T., Ao M., Badaruddin Mohamed and Chan N.W. (2014) A Comparison of Penang National Park, Kinabalu Park and Kruger National Park. In Proceedings IACSC 2013, The 4th International Academic Consortium for Sustainable Cities Consortium. September 6-7 2013, Manila. University of Philippines, Manila, 258-276. ISSN 2362-9010.
- Phang W.L., Chan N.W. and Lai C.H. (2014) The Role of Water Service Providers in Reducing Non-Revenue Water in Malaysia. In Proceedings IACSC 2013, The 4th International Academic Consortium for Sustainable Cities Consortium. September 6-7 2013, Manila. University of Philippines, Manila, 218-229. ISSN 2362-9010.
- Phang W.L., Chan N.W. and Lai C.H. (2014) Potential of Rainwater as Alternative Source of Water in Penang State. In Proceedings IACSC 2013, The 4th International Academic Consortium for Sustainable Cities Consortium. September 6-7 2013, Manila. University of Philippines, Manila, 208-217. ISSN 2362-9010.
- Chan Ngai Weng (2014) The N-Park Water Saving Project: A Participatory Approach in Urban Water Management. In Proceedings of 13th International Conference on Urban Drainage, Sarawak, Malaysia, 7-12 September 2014, Kuching: Universiti Tenaga Nasional (UNITEN), 1-10 (In CD Rom).
- Lai C.H., Chan N.W., Phang W.L. and Nor Azazi Zakaria (2014) Challenges in Non-Revenue Water Management in Perlis State, Malaysia. In Proceedings of 13th International Conference on Urban Drainage, Sarawak, Malaysia, 7-12 September 2014, Kuching: Universiti Tenaga Nasional (UNITEN), 1-10 (In CD Rom).
- Phang W.L., Lai C.H. and Chan N.W. (2014) Domestic Water Saving Practices as a Water Demand Management Strategy in Penang, Malaysia. In Proceedings of 13th International Conference on Urban Drainage, Sarawak, Malaysia, 7-12 September 2014, Kuching: Universiti Tenaga Nasional (UNITEN), 1-10 (In CD Rom).
- Chan Ngai Weng, Azreen Rozainee Abdullah and Badaruddin Mohamed (2014) Balancing Ecotourism Development and Conservation of Natural Heritage in Belum Temenggor Forest Complex (BTFC). Proceedings of the 15th International Joint World Cultural Tourism Conference & 1st World Tourism Conference, 22-24 November 2014, Hanyang Women's University, Seoul. In CD Rom.
- Ng, L. S., Seow, T. W., Goh, K. C. and Chan, N. W. (2014). Implementation of Solid Waste through 3R Thrust 1 in National Solid Waste Management Policy among Contractors Construction Industry in Penang. Proc. 4<sup>th</sup> Int. Conf. on Human Habitat and Environment. Puri Pujangga, UKM, Malaysia. 216- 227.
- Lai Chee Hui, Chan Ngai Weng and Seow Ta Wee (2015) A Study on the Contributions of Social Capital in Flood Disaster Recovery after the December 2014 Major Flood in Kelantan State, Malaysia. Proseedings Transformasi Sosial 2015. Fakulti Kemanusiaan, Seni & Warisan Universiti Malaysia Sabah, 9-17.
- Sim Lay Mei and Chan Ngai Weng (2015) Governance and stakeholders participation in integrating flood risk management in pahang river basin. Proseedings Transformasi Sosial 2015. Fakulti Kemanusiaan, Seni & Warisan Universiti Malaysia Sabah, 1- 8.
- Mohammad Ghazi Hj Ismail, Chan Ngai Weng, NorAzazi Zakaria and Aminuddin Ab Ghani (2015) A review of standard operating procedures (sop) used in flood relief operations during the December 2014 flood in Pahang. Proseedings Transformasi Sosial 2015. Fakulti Kemanusiaan, Seni & Warisan Universiti Malaysia Sabah, 18-27.
- Norsyuhada Anua and Chan Ngai Weng (2015) Bencana banjir: kajian kes terhadap bantuan yang diperlukan dan masalah yang dihadapi oleh mangsa banjir di Kelantan, Malaysia. Proseedings Transformasi Sosial 2015. Fakulti Kemanusiaan, Seni & Warisan Universiti Malaysia Sabah, 28-35.

- Ngai Weng Chan, Narimah Samat, Lai Kuan Lee and Aminuddin Ab Ghani (2015) Role of Citizen Science in Responding to Flood Disasters: A Case Study from Malaysia. Proceedings of the International Conference on "Towards Urban Water Security in Southeast Asia: managing the Risks of Extreme Events", Phnom Penh, Asian Institute of Technology, 227-238.
- Chan Ngai Weng (2015) The Role of Social Capital and Community Resilience in Facing Flood Disasters in Malaysia. Proceedings of International Symposium of International Academic Consortium of Sustainable Cities, Yokohama City University, 13.
- Hong Chern Wern and Chan Ngai Weng (2015) The Impacts of Excessive Water Consumption: A Preliminary Case Study of Penang. Proceedings of International Symposium of International Academic Consortium of Sustainable Cities, Yokohama City University, 12.
- Sim Lay Mei and Chan Ngai Weng (2015) Stakeholders' Participation in Sustainable Water Resource Management: A Case Study of Muda River Basin. Proceedings of International Symposium of International Academic Consortium of Sustainable Cities, Yokohama City University, 11.
- Lai Chee Hui and Chan Ngai Weng (2015) Reducing Non-Revenue Water for a Sustainable City: A Case Study of Penang, Malaysia. Proceedings of International Symposium of International Academic Consortium of Sustainable Cities, Yokohama City University, 10.
- Mohammad Ghazi Hj Ismail, Chan Ngai Weng, Nor Azazi Zakaria and Aminuddin Ab Ghani (2015) Flood Loss Suffered by Pahang Folks During the December 2014 Major Floods. Proceedings of Geografi & Alam Sekitar Kali Ke-5, Universiti Pendidikan Sultan Idris, Tanjong Malim, 601-607 (ISBN 978-967-0924-10-6).
- Norsuhada Bt Anua and Chan Ngai Weng (2015) Adaptasi dan resiliens komuniti terhadap banjir di Kelantan, Malaysia. Proceedings of Geografi & Alam Sekitar Kali Ke-5, Universiti Pendidikan Sultan Idris, Tanjong Malim, 739-747 (ISBN 978-967- 0924-10-6).
- Phang Wai Leng and Chan Ngai Weng (2015) Persepsi Mangsa Banjir Tentang Keperluan Jenis Bantuan Banjir dan Bantuan Banjir Sebenar Yang Diberikan Oleh Sukarelawan di Kota Bharu Semasa Banjir Serius Disember 2014. Proceedings of Geografi & Alam Sekitar Kali Ke-5, Universiti Pendidikan Sultan Idris, Tanjong Malim, 975-984 (ISBN 978-967-0924-10-6).
- Lai Chee Hui and Chan Ngai Weng (2015) A Preliminary Study of the Role of Social Capital in Flood Recovery in Kelantan State. Proceedings of Geografi & Alam Sekitar Kali Ke-5, Universiti Pendidikan Sultan Idris, Tanjong Malim, 568-573 (ISBN 978-967- 0924-10-6).
- Chan Ngai Weng (2015) Challenges in flood disasters management in Malaysia. Proceedings of the World Water Congress XV Edinburgh 25-29 May 2015, International Water Resources Association, 1-9.
- Phang Wai Leng and Chan Ngai Weng (2016) A Comparative Study of Spatial Variation Between the States of Peninsular Malaysia in Terms of Water Supply Characteristics and Consumer's Perception. In Narimah Samat, Saidatulakmal Mohd, Khoo Suet Leng, Asyirah Abdul Rahim and Suriati Ghazali (Editors) Proceedings of International Conference on Development and Socio Spatial Inequalities 2015 Bridging Socio-Spatial Inequalities through Inclusive Development 19 – 20 August 2015 Bayview Beach Resort, Penang, Malaysia. Penang: School of Humanities, Universiti Sains Malaysia, 202-209 (eISBN 978-967-11473-4- 4).
- Lai Chee Hui and Chan Ngai Weng (2016) Spatial Inequalities in Malaysia's Non-Revenue Water Rates: Issues, Challenges and Management Strategies. In Narimah Samat, Saidatulakmal Mohd, Khoo Suet Leng, Asyirah Abdul Rahim and Suriati Ghazali (Editors) Proceedings of International Conference on Development and Socio Spatial Inequalities 2015 Bridging Socio-Spatial Inequalities through Inclusive Development 19 – 20 August 2015 Bayview Beach Resort, Penang, Malaysia. Penang: School of Humanities, Universiti Sains Malaysia, 210-215 (eISBN 978-967-11473-4-4)

- Mohd Firdaus Habib Mohd and Chan Ngai Weng (2016) Potentials and Challenges in Promoting Penang Hill as a Sustainable Ecotourism Destination. In Badaruddin Mohamed (Editor) Proceedings of National Innovation and Invention Competition Exhibition, 22 – 24 Mac 2016 – Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Kedah Malaysia, 56 - 68.
- Mohd Firdaus Habib Mohd and Chan Ngai Weng (2016) Tourists Satisfaction and Survival of Tourism Destination, a Case Study of Penang Hill. In Mohd Fauzi Sukiman, Badaruddin Mohamed (Editors) Proceedings of National Innovation and Invention Competition Exhibition, 22 – 24 Mac 2016 – Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Kedah Malaysia, 68- 80.
- Chan Ngai Weng, Hong Chern Wern, Lai Chee Hui, Lim Han Khim and Tang Soke Kwan (2016) The role of the university in community engagement for environmental and water education: the example of Universiti Sains Malaysia. In Proceedings of the 1<sup>st</sup> International Conference on Society, Space & Environment, Co-organised by by School of Social Sciences, School of Humanities & School of Housing, Building and Planning Universiti, Sains Malaysia, 11800, Penang, Malaysia, 2-4 November 2016, Bali. In CD: 1-8.
- Chan Ngai Weng, Ku Ruhana Bt Ku Mahamud and Mohd Zaini Abd Karim (2016) Assessing Different Types of Flood Losses in Kelantan State in Malaysia during the December 2014 Flood. In Proceedings of the 1<sup>st</sup> International Conference on Society, Space & Environment, Co-organised by by School of Social Sciences, School of Humanities & School of Housing, Building and Planning Universiti, Sains Malaysia, 11800, Penang, Malaysia, 2-4 November 2016, Bali. In CD: 9-15.
- Mohammad Ghazi Bin Hj Ismail, Chan Ngai Weng and Aminuddin Ab Ghani (2016) Peranan Kontraktor dan Tukang Paip dalam Pengurusan Air Tidak Berhasil (NRW) Secara Efisien: Kajian Kes di Bechah Tendong, Pasir Mas, Kelantan, Malaysia (HSSEC 1045). In Proceedings of the International Conference on Humanities, Social Sciences & Environment (HSSEC), Co-organised by by School of Social Sciences, School of Humanities & School of Housing, Building and Planning Universiti, Sains Malaysia, 11800, Penang, Malaysia, 2-4 November 2016, Bali. In CD: 1-8.
- Chan Ngai Weng, Hong Chern Wern and Lai Chee Hui (2017) Public perception, understanding and commitment towards climate change in Penang. Proceedings of Persidangan Kebangsaan Masyarakat, Ruang dan Alam Sekitar, 2017, School of Humanities Universiti Sains Malaysia, 255-269.
- Mohammad Ghazi Hj. Ismail and Chan Ngai Weng (2017) Keefisienan pengurusan NRW dalam meningkatkan pengeluaran dan penggunaan air dengan rujukan Bechah Tendong, Pasir Mas, Kelantan, Malaysia, Proceedings of Persidangan Kebangsaan Masyarakat, Ruang dan Alam Sekitar, 2017, School of Humanities Universiti Sains Malaysia, 337-345.
- Chan Ngai Weng and Narimah Samat (2017) Reducing flood hazards for overall flood loss reduction towards alleviating poverty of flood victims in Kelantan state, Malaysia. Proceedings in 3rd Ruhuna University International Conference on Humanities and Social Sciences di University of Ruhuna, Sri Lanka.
- Sulzakimin Mohamed, Seow Ta Wee and Chan Ngai Weng (2017) The Awareness towards Sustainable Development of Construction Industry in Kuala Lumpur, Malaysia. In Kazuaki Maeda, K., Sandhu, P. S. and Sergey, L. (Eds) Dignified Researchers in Civil, Architectural & Environmental Engineering (DRCAEE) 2017, 1,1, 179-184. (Also available online <http://drcaee.org/proceeding.php/77> ISBN 978-81-933894-1-6. <https://doi.org/10.15242/DIRPUB> Pages 125-130).
- Mohamed, S.; Ebenehi, I. Y.; Adaji, A.; Seow, T. W.; Chan, N. W.; Goh, K. C. and Abd Rahim, M. H. I. (2017) Impacts of flood on children and adults' health and ways to sustainable development. *IOP Conference Series: Materials Science and Engineering* on November 01, 2017.

- Chan, N.W., Nor Azazi Zakaria, Aminuddin Ab Ghani, Lee, L.K. and Narimah Samat (2017) Social capital and community resilience in coping with flood disasters in Malaysia. E-Proceedings of the 37<sup>th</sup> IAHR World Congress, August 13-18 Kuala Lumpur, Malaysia.
- Lai, C.H., Chan, N.W., Nor Azazi Zakaria and Goh, H.W. (2017) Mobilising local communities towards involvement in river management: lessons learnt from the Sungai Pinang river community engagement project in Penang, Malaysia. E-proceedings of the 37<sup>th</sup> IAHR World Congress, August 13-18 Kuala Lumpur, Malaysia.
- Tan, M.L. Chua, V.P., Liew, J., Tangang, F. and Chan, N.W. (2017) Projecting future hydro-climatic changes of the Johor River Basin, Malaysia. E-proceedings of THE 37<sup>th</sup> IAHR World Congress, August 13-18 Kuala Lumpur, Malaysia.
- Norsyuhada Anua and Chan, N.W. (2017) Issues and challenges in reducing vulnerability among communities in Kelantan. Proceedings of International Conference on Humanities 2017 (InCOH2017) "The Role and Relevancies of Humanities towards Supporting Sustainable Development Goals", 16-18 August 2017, Penang.
- Ong, K.S., Chan, N.W. and Sharifah Rohayah Sheikh Dawood (2017) Tourism within multifunctional rural area: issues and challenges. Proceedings of International Conference on Humanities 2017 (InCOH2017) "The Role and Relevancies of Humanities towards Supporting Sustainable Development Goals", 16-18 August 2017, Penang.
- Chan, N.W. (2017) Achieving water resources security via Environmental Humanities: Examples from Malaysia. Plenary Speech III, Proceedings of 5th International Conference on Environmental Research & Technology (ICERT 2017), 23-25 August 2017, Penang.
- Sim, L.M. and Chan, N.W. (2017) Indigenous knowledge and its future: Analysis of practices and communication networks in Xishuangbanna, China. Proceedings of the 5th International Conference on Environmental Research & Technology (ICERT 2017), 23-25 August 2017, Penang.
- Ong, K.S. and Chan, N.W. (2017) Pay for plastic bag: A case study of Penang, Malaysia. Proceedings of the 5th International Conference on Environmental Research & Technology (ICERT 2017), 23-25 August 2017, Penang.
- Chan, N.W. (2017) Engaging relevant stakeholders towards holistic river management for sustainable environment and development. Proceedings of the IACSC Bangkok 2017, International conference of the International Academic Consortium of Sustainable Cities, 11 September 2017, Bangkok.
- Ong, K.S., Chan, N.W. and Sharifah Rohayah Sheikh Dawood (2017) Tourism in mangrove forest: Multifunction, Coexistence or Contradiction? Proceedings of the IACSC Bangkok 2017, International conference of the International Academic Consortium of Sustainable Cities, 11 September 2017, Bangkok.
- Phang, W.L. and Chan, N.W. (2017) Role of non-governmental organisations in engaging students in environmental education in Penang, Malaysia. Proceedings of the IACSC Bangkok 2017, International conference of the International Academic Consortium of Sustainable Cities, 11 September 2017, Bangkok.
- Sim, L.M. and Chan, N.W. (2017) Solving transboundary water issues between Kedah and Penang States. Proceedings of the IACSC Bangkok 2017, International conference of the International Academic Consortium of Sustainable Cities, 11 September 2017, Bangkok.
- Chan, N.W. (2017) Integrating water demand management with water supply management for overall water sustainability: examples from Southeast Asia. E-Proceedings in CD Rom of the United States Pacific Command (USPACOM) "Maritime Environmental Security Workshop (MESW)", 12-15 September, Kota Kinabalu.

- Lai, C. H., Tan, D.T., Chan, N. W., Zakaria, N. A. (2018). Applying A System Thinking Approach to Explore Root Causes of River Pollution: A Preliminary Study of Pinang River in Penang State, Malaysia, Proceedings of the 21st Congress of International Association for Hydro-Environment Engineering and Research (IAHR), Asia Pacific Division (APD) - Multi-Perspective Water for Sustainable Development, Yogyakarta, Indonesia. 2-5 September 2018, 1441-1448. ISBN 978-602-71762-7-0.
- Chan, N.W. (2018) Combining engineering measures with social resilience in coping with urban floods in Malaysia. Proceedings of 8th International Conference on Future Environment and Energy (ICFEE 2018), 10-12 January 2018, Phuket, 14-15.
- Chan, N.W. (2018) Enhancing biomass energy production towards stabilising climate: case study of Malaysia. Proceedings of 4<sup>th</sup> International Conference on Advances in Environmental Research (ICAER 2018), 28-30 May 2018, Hong Kong, 8-9.
- Chan., N.W. (2018) Water Education: Are We Ignorant? Proceedings of Malaysia Water Resources Management Forum 2018 "Sharing Water", 25 – 26 September 2018 Putrajaya, 38-42.
- Chan, N.W. (2019) Sustainable urban drainage as a viable measure of coping with heat and floods due to climate change. Proceedings 9th International Conference on Future Environment and Energy (ICFEE 2019) to be held in Osaka, Japan during January 9-11, 2019.
- Chan, N.W. (2019) Holistic Urban Water Management Integrating Rainfall Harvesting, Water Conservation and Sustainable Drainage Systems in Universiti Sains Malaysia. Proceedings of 5th International Conference on Advances in Environment Research (ICAER 2019) to be held in Singapore during 13-15 August, 2019.
- Chan, N.W., Ghani, A.A., Samat, N., Hasan, N.N.N. and Tan, M.L. (2019) Integrating Structural and Non-Structural Flood Management Measures for Greater Effectiveness in Flood Loss Reduction in the Kelantan River Basin, Malaysia. Proceedings of Proceedings of AICCE 2019.
- See Too, K.L., Chan, N. W. and Samat, N. (2019) Understanding Consumer Awareness and Perception Towards Sustainably Managed Aquaculture in Penang, Malaysia. Proceedings of 10th International Academic Consortium for Sustainable Cities (IACSC) Symposium and General Assembly on August 27 and 28, Makassar.
- Mohd Amirul Mahamud, Narimah Samat, Tan, M.L., Chan, N.W. and Tew, Y.L. (2019) Prediction of Future Land Use Land Cover Changes of Kelantan, Malaysia. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, Volume XLII-4/W16, 2019 6th International Conference on Geomatics and Geospatial Technology (GGT 2019), 1–3 October 2019, Kuala Lumpur, Malaysia. (WOS and SCOPUS Indexed)
- Piratheeparajah Nagamuthu and Chan Ngai Weng (2020) Convectional influences on the weather pattern of Northern Sri Lanka. *The European Proceedings of Social and Behavioural Science*. Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK). DOI: 10.15405/epsbs.2020.10.02.68
- Norsyuhada Anua and Chan Ngai Weng (2020) Community resilience building in the aftermath of flood disaster. *The European Proceedings of Social and Behavioural Science*. Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK). DOI: 10.15405/epsbs.2020.10.02.68
- Ong Ke Shin, Chan Ngai Weng and Sharifah Rohayah Sheikh Dawood (2020) Challenges facing small and medium tourism enterprises: a case study in Kuala Sepetang. *The European Proceedings of Social and Behavioural Science*. Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK). DOI: 10.15405/epsbs.2020.10.02.68
- Sim Lay Mei, Chan Ngai Weng, Tan Mou Leong, Norhanida Daud, Wan Ruslan Ismail and Phang Wai Leng (2020) Socio- economic and livelihood assessment of inland fishermen in Muda River Basin. *The European Proceedings of Social and Behavioural Science*. Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK). DOI: 10.15405/epsbs.2020.10.02.68

- See Too Kay Leng, Chan Ngai Weng and Narimah Samat (2020) Community Awareness and Involvement in River Conservation in Pasir Mas, Kelantan. The European Proceedings of Social and Behavioural Science. Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK). DOI: 10.15405/epsbs.2020.10.02.68
- See Too Kay Leng, Chan Ngai Weng, Tan Mou Leong, Seow Ta Wee and Narimah Samat (2020) Consumer Awareness and Acceptance of Aquaculture Practices and Products in Penang, Malaysia. The European Proceedings of Social and Behavioural Science. Published by Future Academy [www.FutureAcademy.org](http://www.FutureAcademy.org). UK. DOI: 10.15405/epsbs.2020.10.02.68
- Chan Ngai Weng, Aminuddin Ab Ghani, Ranjan Roy, Narimah Samat, Lai Chee Hui and Tan Mou Leong (a) A Critical Evaluation of River Management Models in Malaysia: Background, Current Issues and The Way Forward. The European Proceedings of Social and Behavioural Science. Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK). DOI: 10.15405/epsbs.2020.10.02.68
- Chan, N.W., Ghani, A.A., Samat, N., Hasan, N.N.N. and Tan, M.L. (2020) Integrating Structural and Non-Structural Flood Management Measures for Greater Effectiveness in Flood Loss Reduction in the Kelantan River Basin, Malaysia. In Fadzli Mohamed Nazri (Editor) Proceedings of Proceedings of AICCE' 2019: Transforming the Nationa for a Sustainable Tomorrow. Springer Nature Switzerland AG 2020:1151-1162. <https://doi.org/10.1007/978-3-030-32816-0>
- Muhammad Kashfy Zainalfikry, Aminuddin Ab Ghani, Nor Azazi Zakaria and Ngai Weng Chan (2020) HEC-RAS One-Dimensional Hydrodynamic Modelling for Recent Major Flood Events in Pahang River. In Fadzli Mohamed Nazri (Editor) Proceedings of Proceedings of AICCE' 2019: Transforming the Nationa for a Sustainable Tomorrow. Springer Nature Switzerland AG 2020: 1099-1116. <https://doi.org/10.1007/978-3-030-32816-0>
- Muhammad Kashfy Zainalfikry, Aminuddin Ab Ghani, Nor Azazi Zakaria and Ngai Weng Chan (2020) Flow Resistance in Ecological Subdrainage Channel. In Fadzli Mohamed Nazri (Editor) Proceedings of Proceedings of AICCE' 2019: Transforming the Nationa for a Sustainable Tomorrow. Springer Nature Switzerland AG 2020: 1117-1128. <https://doi.org/10.1007/978-3-030-32816-0>.
- Anggara Wiyono Wit Saputra, Nor Azazi Zakaria and Chan Ngai Weng (2020) Changes in Land Use in the Lombok River Basin and Their Impacts on River Basin Management Sustainability. *IOP Conf. Series: Earth and Environmental Science* 437 (2020) 012036
- Anua, N., & Chan, N. W. (2020). Community resilience building in the aftermath of flood disaster. *European Proceedings of Social and Behaviour Sciences*, 89, 501-510. DOI: 10.15405/epsbs.2020.10.02.45.
- 
- Vipulan, P., Ghazali, S., Chan, N.W. and Rahim, A.A.(2022) Environmental Challenges in Ecotourism Development in Jaffna District, Sri Lanka. Proceedings of 13<sup>th</sup> International Academic Consortium for Sustainable Cities (IACSC) 2022, 12<sup>th</sup> –13<sup>th</sup> September, Universiti Sains Malaysia, Penang. Penang: School of Humanities (e-ISSN NO.) 2948-5002
- Yusoh, M.P., Mapjabil, J. and Chan, N.W.(2022) Socio-economic and environmental challenges facing water villages in Semporna and Kudat, Sabah, Malaysia. Proceedings of 13<sup>th</sup> International Academic Consortium for Sustainable Cities (IACSC) 2022, 12<sup>th</sup> –13<sup>th</sup> September, Universiti Sains Malaysia, Penang. Penang: School of Humanities (e-ISSN NO.) 2948-5002
- Shoji, Y., Peii, T., Omori, F., Onishi, A., Nakanishi, M., Ochiai, R., Seta, M., Yoshinaga, T., Ota, R., Chan, N.W., Huong, D.N.T., Irwan, A.M., Ngoc, P.T.B., Imura, H. (2022) Content Validity of Online Global Education Program Scale. Proceedings of 13<sup>th</sup> International Academic Consortium for Sustainable Cities (IACSC) 2022, 12<sup>th</sup> –13<sup>th</sup> September, Universiti Sains Malaysia, Penang. Penang: School of Humanities (e-ISSN NO.) 2948-5002

- Chan, N.W., Samat N., See K.F. and Tan M.L. (2023) Environmental Sustainability of the Aquaculture Industry in Malaysia from the Perspective of Consumers. Book of Abstracts. 2023 9th International Conference on Advances in Environment Research (ICAER 2023), March 24-26, 2023 | Singapore ([www.icaer.org](http://www.icaer.org)).

#### Other Publications

#### UNPUBLISHED REPORTS:

- Chan, N.W. (1981) **A Quantitative Analysis of Rainfall Patterns and Drought Occurrences in Northwest Peninsular Malaysia**. Unpublished M.A. thesis, University of Malaya, Kuala Lumpur, 384 pp.
- Chan, N.W., Chong, P.F., Hashim Muslim, Kwan, K.F., Mohd Nasir Shaari, Norlin Jaafar, Richard Mani Banda, Sairin Samin and Zainal Jain (1991) **Preparation of a Landuse/Cover Classification Map of Lower Kelang Valley Region Using Remote Sensing Techniques**. Unpublished Report funded by the Malaysian Centre for Remote Sensing (MACRES), Kuala Lumpur, May 1991, 59 pp.
- Chan, N.W. (1991) *The Climate of Penang Hill: A General View of Existing Climatic Conditions as Compared to its Surrounding Lowlands*. Unpublished Report on the Short-term Research Grant Project **Kajian Tentang Ciri-Ciri Persekitaran dan Diversiti Flora dan Fauna Bukit Bendera Pulau Pinang**. Research and Development Section, Universiti Sains Malaysia, August 1991, 20 pp.
- Chan, N.W. (1991) Amalan-Amalan Penanaman Padi Di Sawah Sempadan dan Sungai Burong, Mukim Tanjong Karang dan Pengaruhnya Terhadap Perubahan Kualiti Air Permukaan. Unpublished Report of the R & D Research Grant Project **Satu Kajian Tentang Perubahan Kualiti Air Permukaan Akibat Aktiviti-Aktiviti Dalam Kitaran Penanaman Padi di Mukim Tanjong Karang, Daerah Kuala Selangor**, Funded by Universiti Sains Malaysia, August 1991, 200 pp. (Translation : Padi Farming Practices in Sawah Sempadan and Sungai Burong, Tanjong Karang Mukim and its influences on Surface Water Quality Changes)
- Chan, N.W. (1991) **The Flood Hazard in Peninsular Malaysia: A Review of Concepts and the Search for a Model of Human Response**. Unpublished Preliminary Report submitted to the Flood Hazard Research Centre, Middlesex Polytechnic, Queensway, Enfield, Middlesex EN3 4SF, October 1991, 30 pp.
- Chan, N.W. (1991) **Images of Malaysia**. Unpublished Report submitted to the Flood Hazard Research Centre, Middlesex Polytechnic, Queensway, Enfield, Middlesex EN3 4SF, December, 20 pp.
- Chan, N.W. (1991) **The Flood Hazard in Peninsular Malaysia: An Evaluation of Forecasting and Warning Systems**. Paper presented at the Seminar on Flood Hazard in Malaysia. Organised by the Flood Hazard Research Centre, Middlesex University, Queensway, Enfield, Middlesex, London on the 31st of October 1991.
- Chan, N.W. (1992) **A Critical Literature Review of Flood Hazard Research**. Unpublished Report, Flood Hazard Research Centre, Middlesex University, Queensway, Enfield, Middlesex (UK), London.
- Ho, S.C. (ed) (1992) **Environmental Characteristics and Diversity of the Flora and Fauna of Penang Hill, Penang**. Short term research grant report, Universiti Sains Malaysia. I was part of the team of researchers who contributed to the completion of this report.
- Chan, N.W. (1995) **Natural and Human Use Systems Relating to Flood Hazards in Peninsular Malaysia**. Report prepared for the Flood Hazard Research Centre, Middlesex University, Queensway, Enfield, Middlesex EN3 4SF, 80 pp.
- Chan, N.W. (1995) **The Institutional Context of Flood Hazard Management in Malaysia**. Report prepared for the Flood hazard Research Centre, Middlesex University, Queensway, Enfield, Middlesex EN3 4SF, 70 pp.
- Chan, N.W. (1995) **A Contextual Analysis of Flood Hazard Management in Peninsular Malaysia**, Unpublished Ph.D. thesis, Middlesex University (UK), 662 pp.

- Chan, N.W. (1995) **An Assessment of Current British River Flood Forecasting Systems in England and Wales**, Report prepared for the School of Geography and Environmental Management, Middlesex University, Queensway, Enfield, Middlesex EN3 4SF.
- Chan, N.W. (1995) **A Preliminary Survey of Flood Damage Incurred by Residential, Commercial and Industrial Establishments in Various parts of Peninsular Malaysia**. Report prepared for the Flood hazard Research Centre, Middlesex University, Queensway, Enfield, Middlesex EN3 4SF.
- Chan, N.W. (1995) **Evaluating the Most Significant Factors Affecting the Overall Subjective Severity and the Subjective Severity of Other Impacts of Flooding in Peninsular Malaysia**. Report prepared for the Flood hazard Research Centre, Middlesex University, Queensway, Enfield, Middlesex EN3 4SF.
- Leong, Y.K., Chan, N.W., Ahmad Chik, Ganesh Rasagam, Toh, H.S. and Teng, F.L.E. (1996) **Review of the Preliminary EIA on the Proposed Housing Development on Lot 4790, MK13, NED, Paya Terubong, Penang**. Report prepared by the Penang Chief Minister's EIA Advisory Panel for Y.A.B. Chief Minister of Penang, Pulau Pinang.
- Chan, N.W. (1997) **Geography, Resources, Hazards and the Environment: A Collection of Papers by Chan Ngai Weng 1981- 1997, Part I**. Unpublished Occasional paper.
- Chan, N.W. (1997) **Geography, Resources, Hazards and the Environment: A Collection of Papers by Chan Ngai Weng 1981- 1997, Part II**. Unpublished Occasional paper.
- Chan, N.W. (1997) **Cuaca, Iklim dan Hidrologi - Pengaruh dan Interaksinya dengan Manusia-Alam Sekitar: Satu Koleksi Kertas Kerja oleh Chan Ngai Weng 1981 - 1997**. Unpublished Occasional paper.
- DCT Consultancy Services Sdn Bhd (1997) **Penang Environmental Conservation Strategy - Inception Report**. Report prepared for the Penang State Government. I am a team leader on the Natural Resources Working Group which is part of the team for this report. I wrote the sections on Hill Land, Water Resources and Flooding.
- Chan, N.W., Morshidi Sirat, Ruslan Rainis, Wan Ruslan Ismail and Ab Latif Ibrahim (1997) **Urban Sustainability and the Effects of Rapid Socio-Economic, Industrial and Infrastructure Development in Penang Island on the Environment, with special reference to Soil Erosion, Landslides, Water Pollution and Flooding - Inception Report**. Report prepared for the Institute of Strategic and International Studies (ISIS) Malaysia. UNDP/ISIS Programme of Research Grants for Small-Scale Projects on Environment and Development. I am Project Leader and editor of this report.
- Chan, N.W. (1997) **Manusia, Iklim, Tumbuhan dan Alam Sekitar - Nota-Nota Kuliah**. Unpublished Report. School of Humanities, Universiti Sains Malaysia, Penang, 200 pp.
- Chan, N.W. (1997) *Chapter 4.1 Physical Geography*. In DCT Consultancy Services Sdn Bhd (December 1997) **Penang Environmental Conservation Strategy - Interim Report**. Report prepared for the Penang State Government, Pulau Pinang, 4-1 to 4-10a.
- Chan, N.W. (1997) *Chapter 4.2.2 Hill Land*. In DCT Consultancy Services Sdn Bhd (December 1997) **Penang Environmental Conservation Strategy - Interim Report**. Report prepared for the Penang State Government, Pulau Pinang, 4-19 to 4-26.
- Chan, N.W. (1997) *Chapter 4.3 Water Resources*. In DCT Consultancy Services Sdn Bhd (December 1997) **Penang Environmental Conservation Strategy - Interim Report**. Report prepared for the Penang State Government, Pulau Pinang, 4- 31 to 4-48.
- Chan, N.W. (1997) *Chapter 5.5 Flooding*. In DCT Consultancy Services Sdn Bhd (December 1997) **Penang Environmental Conservation Strategy - Interim Report**. Report prepared for the Penang State Government, Pulau Pinang, 5-15 to 5-21.
- Chan, N.W. (1998) *Technical Report on the Physical Geography of Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Penang Environmental Conservation Strategy**, DCT Consultancy Services Sdn Bhd (March 1998), Pulau Pinang.



- Chan, N.W. (1997) *Chapter 5.5 Flooding*. In DCT Consultancy Services Sdn Bhd (December 1997) **Penang Environmental Conservation Strategy - Interim Report**. Report prepared for the Penang State Government, Pulau Pinang, 5-15 to 5-21.
- Chan, N.W. (1998) *Technical Report on the Physical Geography of Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Penang Environmental Conservation Strategy**, DCT Consultancy Services Sdn Bhd (March 1998), Pulau Pinang.
- Chan, N.W. (1998) *Technical Report on Hill Land Development in Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Penang Environmental Conservation Strategy**, DCT Consultancy Services Sdn Bhd (March 1998), Pulau Pinang.
- Chan, N.W. (1998) *Technical Report on Water Resources and Conservation in Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Penang Environmental Conservation Strategy**, DCT Consultancy Services Sdn Bhd (March 1998), Pulau Pinang.
- Chan, N.W. (1998) *Technical Report on Hydrology and Flooding in Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Penang Environmental Conservation Strategy**, DCT Consultancy Services Sdn Bhd (Mac 1998), Pulau Pinang.
- Chan, N.W. (1998) **Hydrological Survey of a Section of the Sungai Sedim carried out on 17 June 1998**. Reported prepared for Consumers' Association of Penang, Penang.
- Chan, N.W., Morshidi Sirat, Ruslan Rainis, Wan Ruslan Ismail and Ab Latif Ibrahim (1998) **Urban Sustainability and the Effects of Rapid Socio-Economic, Industrial and Infrastructure Development in Penang Island on the Environment, with special reference to Soil Erosion, Landslides, Water Pollution and Flooding - Final Report**. Report prepared for the Institute of Strategic and International Studies (ISIS) Malaysia. UNDP/ISIS Programme of Research Grants for Small-Scale Projects on Environment and Development. I am Project Leader and main writer and editor of this report, 157 pp.
- Chan, N.W. (1998) *Technical Report on the Climate, Topography and Drainage in the Balik Pulau Area, Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Drainage and Development Concept Study for the Western Region of Penang Island**. PDC-AR&T Total management Sdn Bhd., Level 1, No. 1, Persiaran Mahsuri, Bandar Bayan Baru, 11909 Bayan Lepas, Penang.
- Chan, N.W. (1998) *Technical Report on Water Resources in the Balik Pulau Area, Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Drainage and Development Concept Study for the Western Region of Penang Island**. PDC-AR&T Total management Sdn Bhd., Level 1, No. 1, Persiaran Mahsuri, Bandar Bayan Baru, 11909 Bayan Lepas, Penang.
- Chan, N.W. (1998) *Technical Report on Flooding in the Balik Pulau Area, Penang*. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Drainage and Development Concept Study for the Western Region of Penang Island**. PDC-AR&T Total management Sdn Bhd., Level 1, No. 1, Persiaran Mahsuri, Bandar Bayan Baru, 11909 Bayan Lepas, Penang.
- DCT Consultancy Services Sdn Bhd (1998) **Penang Environmental Conservation Strategy - Draft Final Report. Volume I: Data, Analysis And Tools**. May 1998. Consultancy Report prepared for the Penang State Government, Pulau Pinang.
- DCT Consultancy Services Sdn Bhd (1998) **Penang Environmental Conservation Strategy - Draft Final Report. Volume II: Executive Summary**. May 1998. Consultancy Report prepared for the Penang State Government, Pulau Pinang.
- DCT Consultancy Services Sdn Bhd (1998) **Penang Environmental Conservation Strategy - Draft Final Report. Volume III: Action Plan And Strategies**. May 1998. Consultancy Report prepared for the Penang State Government, Pulau Pinang.
- PDC-AR&T Total Management Sdn Bhd. (1998) *Draft Report: Kajian Saliran dan Konsep Pembangunan Kawasan Barat Pulau Pinang*. November 1998. Consultancy Report prepared for the Penang State Government, Pulau Pinang in **The Drainage and Development Concept Study for the Western Region of Penang Island**. I wrote the sections on Climate, Topography and Drainage, Water Resources and Flooding.

- Kerajaan Negeri Pulau Pinang (1999) **Executive Summary**. DCT Consultancy Services Sdn. Bhd. Consultancy Report prepared for the Penang State Government, Pulau Pinang.
- Kerajaan Negeri Pulau Pinang (1999) **Penang Environmental Conservation Strategy: Action Plan**. DCT Consultancy Services Sdn. Bhd. Consultancy Report prepared for the Penang State Government, Pulau Pinang.
- Kerajaan Negeri Pulau Pinang (1999) **Technical Report: Data, Analysis and Tools**. DCT Consultancy Services Sdn. Bhd. Consultancy Report prepared for the Penang State Government, Pulau Pinang.
- Universiti Sains Malaysia Consultancy Team (1999) **The Department of Environment Malaysia's Water Pollution Control Project: Classification of Rivers in Malaysia - Technical Draft Final Report**", March 1999. I carried out the study and wrote the section on "Hydrology of the Sungai Pinang". The project is coordinated by Professor Mashhor Mansor of the School of Biological Sciences, USM.
- Unniversiti Sains Malaysia Consultancy Team (1999) **The Department of Environment Malaysia's Water Pollution Control Project: Classification of Rivers in Malaysia - Technical Draft Final Report**. March 1999. I carried out the study and wrote the section on "Hydrology of the Sungai Kedah. The project is coordinated by Professor Mashhor Mansor of the School of Biological Sciences, USM.
- The Malaysian Nature Society Penang Branch (1999) **Pencinta Alam: Compilation of Newsletters July 1998-December 1999**. Edited by Chan N W. Limited Edition.
- PDC-AR&T Total Management Sdn Bhd. (1999) **Final Report: Kajian Saliran dan Konsep Pembangunan Kawasan Barat Pulau Pinang**. Consultancy Report prepared for the Penang State Government, Pulau Pinang. I wrote the sections on Climate, Topography and Drainage, Water Resources and Flooding.
- Chan, N.W. (1999) *The Malaysian Nature Society Penang Branch Annual Report 1998/99*. In **Malaysian Nature Society 52nd Annual General Meeting Report 1998/99**. Malaysian Nature Society, Kuala Lumpur, pp 36-41.
- Chan, N.W. (1999) *Guidelines for Development in Water Catchment Areas in the State of Penang. Section on Guidelines for Hydrology*. Consultancy Report prepared for Edtech Associates Sdn. Berhad's **Formulation of Guidelines for the Development and Environmental Management of Water Catchment Areas in Penang State**. Penang.
- Morshidi Sirat, Chan, N.W., Hassan Naziri, Ruslan Rainis, Wan Ruslan Ismail, Ab Latif Ibrahim, Aziz Abdul Majid, Norizan Md Nor, Usman Yaakub, Moha Asri Abdullah, Tarmiji Masron and Aziz Shafie (1999) **Kajian Pengkhususan Wilayah Di Malaysia – Laporan Kemajuan Jilid I (Translation: Regional Specialisation Study in Malaysia – Progress Report Volume 1)**. Consultancy Report prepared for the Economic Planning Unit (EPU) of Malaysia.
- Morshidi Sirat, Chan, N.W., Hassan Naziri, Ruslan Rainis, Wan Ruslan Ismail, Ab Latif Ibrahim, Aziz Abdul Majid, Norizan Md Nor, Usman Yaakub, Moha Asri Abdullah, Tarmiji Masron and Aziz Shafie (1999) **Kajian Pengkhususan Wilayah Di Malaysia – Laporan Kemajuan Jilid II (Translation: Regional Specialisation Study in Malaysia – Progress Report Volume 2)**. Consultancy Report prepared for the Economic Planning Unit (EPU) of Malaysia.
- Morshidi Sirat, Chan, N.W., Hassan Naziri, Ruslan Rainis, Wan Ruslan Ismail, Ab Latif Ibrahim, Aziz Abdul Majid, Norizan Md Nor, Usman Yaakub, Moha Asri Abdullah, Tarmiji Masron and Aziz Shafie (2000) **Laporan Akhir Kajian Pengkhususan Wilayah Di Malaysia (Translation: Regional Specialisation Study in Malaysia – Final Report)**. Consultancy Report for the Economic Planning Unit (EPU) of Malaysia.
- Edtech Associates Sdn Bhd (2003) *Scientific Assessment of the Impact of the Proposed Helicopter Harvesting Project in Kedah Darul Aman*. Consultancy Report prepared for The Perbadanan Bekalan Air Pulau Pinang. Pulau Pinang: Edtech Associates Sdn Bhd, 123- L, Macalister Road, P.O. Box 163, 10720 Penang. (Contributed the 3 Chapters concerning Climate, Physical Geography and Hidrology)
- Chan N W (Editor) (2003) *Introductory Course on Ecotourism*. Penang: The British Council DFID Higher Education Links and School of Humanities, Universiti Sains Malaysia.

- WWF-Malaysia (2004) *Assessment on the Sustainability of Malaysia's Water Resources Utilisation by Using Sustainable Development Indicators (SDI)*. Consultancy Report prepared by Water Watch Penang for WWF-Malaysia, 49 Jalan SS223/15, 47400 Taman SEA, Petaling Jaya, Selangor D.E., Malaysia.
- Chan, N.W. (2004) *Universiti Sains Malaysia-CETDEM Climate Change Survey, August-September 2004*. Research Report prepared by Universiti Sains Malaysia for CETDEM under USM-CETDEM MOU of Collaboration for climate change.
- Chan, N.W. (Editor) 2004 *Introductory Course on Ecotourism*. Penang: The British Council DFID Higher Education Links & School of Humanities, Universiti Sains Malaysia.
- Chan, N.W., Norizan Md Nor and Suriati Ghazali (2006) *Environmental Change and Sustainable Tourism: A Study of Impacts, Benefits and Involvement of Orang Asli Communities Along the Perak-Pahang-Kelantan Borders*. Unpublished Short Term Research Final Report, School of Humanities, Universiti Sains Malaysia.

#### TRANSLATION:

- Tivy, J. (1982) *Biogeography: A Study of Plants in the Ecosphere*. This book has been translated into Bahasa Malaysia by me and Rosiyah Abd. Latif and published by the Dewan Bahasa dan Pustaka in 1994.

## RESEARCH PROJECT

---

### International

- Chan N W (PI) **A Contextual Analysis of Flood Hazard Management in Peninsular Malaysia**, PhD Research Project jointly funded by Universiti Sains Malaysia and Middlesex University. Total funding inclusive of scholarship amounts to RM168,000.00 (September 1991 - September 1995)
- Chan N W (PI) **Managing Water Resources in The 21st Century In Malaysia**. A Research Grant to produce a book. Funded by the Alliance for a responsible and United World (Paris). A Total of RM10,000.00 was approved for this project (1 September 1998 - 31 December 1999).
- Chan N W (PI) and Kung H T **Fulbright Scholar Programme – Management of Flood Hazards in the Memphis Area, Tennessee, USA and Management of Flood Hazards in Penang, Malaysia: A Comparative Study**. A joint research programme worth \$15,050.00 approved under the Malaysian-American Center for Educational Exchange (MACEE). The other researcher is Professor Hsiang-te Kung of the Department of Geography, University of Memphis, Tennessee, USA. The period of the research is from 17 August 2000 to 30 June 2001.
- Chan N W (PI), Barrow C J and Clifton J **Land Use, Land Development and Control of Environmental Degradation in Highland areas of Peninsular Malaysia: Supporting Sustainable Livelihoods**. DFID, The British Council Higher Education Links. Joined project together with (Dr) C.J. Barrow [UNIV. WALES SWANSEA] and (Dr) J. Clifton [PORTSMOUTH UNIV.]. Total Funding sought is RM12,000.00 (Research period is 01 APRIL 2002 - 31 MARCH 2005).
- Chan N W (PI), Barrow C J and Clifton J **Sustainable Development of Cameron Highlands: Issues & Challenges**. DFID. The British Council Higher Education Links. Joined book project with (Dr) C.J. Barrow [UNIV. WALES SWANSEA] and (Dr) J. Clifton [PORTSMOUTH UNIV.]. Funding totaled RM4,500.00 for the publication of a book (Research Period is 1 May 2005 - 31 July 2005).
- Chan N W (PI) **A Comparative Study of Community Water Resources Management in Thailand and Malaysia with Emphasis on the Role of Women**. Asian Institute of Technology, Southeast Asia Urban Environmental Management Applications (SEA- UEM) Project. Post-Doctoral Fellowship Research Sponsored by CIDA-AIT. A total of 150,000.00 Baht (RM15,000.00) was awarded under this project (Research Period is 1 May 2006 – 30 April 2007).

- Barrow C J (PI) and Chan N W **Highlands Under Threat in Malaysia: Assessing The Key Problems And Identifying Sustainable Development**. The British Academy, 10 Carlton House Terrace, London SW1Y 5AH. Joint project together with (Dr) C.J. Barrow as Head [UNIV. WALES SWANSEA]. Total Approved Funding is £18,073 (Approximately RM126,500.00 (Research Period is 1 October 2006 – 1 October 2008).
- Jamaluddin Md Jahi (PI) and Chan N. W. **Dampak Pembangunan terhadap Alam Sekitar dan Kepentingan Pengurusan Alam Sekitar Bersepadu di Provinsi Riau, Indonesia**. Government of Riau Province, June 2012 to August 2013. RM1,000,000.00 approved.
- Chan N W (PI) Participatory approaches in urban water management in Asia, for the city of Georgetown, Penang. **Lee Kuan Yew School of Policy, National University of Singapore International Grant** of SGD4500.00 (RM11,584.71). Duration of project 2013-2014.
- Chan N W (PI) and Masazumi Ao. **Collaborative Learning of Integrated River Basin Management: A Comparative Study of the Tsurumi River Management Model and Pinang River Management Model**. The sumitomo Foundation Fiscal 2014 Grant for Japan- related Research Projects. Duration 31 April 2015 – 31 March 2016. Grant Amount is US\$6500.00 (RM23,354.50).
- Chan NW (PI), Masazumi Ao and Hidefumi Imura. **Research, Development and Publication of a Textbook titled "Textbook for Sustainable Urban Development Program Volume 1"**. Yokohama City University Global Cooperation Institute for Sustainable Cities (GCI) Grant of RM21,840.00.
- Tan Mou Leong (PI), Chan Ngai Weng, Ruslan Rainis, Wan Ruslan Ismail, Narimah Samat, James Haywood, Matthew Hawcroft and Kevin Ivan Hodges. **Impacts of PRecipitation from Extreme StormS - Malaysia (IMPRESS – Malaysia)**. Newton-NERC Grant, 203.PHUMANITI.6780001, 1 Jan 2019 to 31 Dec 2021.
- Chan N W (PI), Hong C.W., and Baker, H. International Project between Water Watch Penang and Clean International titled **"Water Conservation in Penang Schools, Malaysia"**. Grant from INTEL International Via Clean International totaling US\$210,695.00 (RM941,451.17)
- Chan N W (PI), Hong C.W., and Baker, H. International Project between Water Watch Penang, Clean International and Gravity Water titled **"Rainfall Harvesting Project in Kelantan and Penang Schools, Malaysia"**. Grant from INTEL International Via Clean International totaling RM267,000.00
- Chan N W (PI) Participatory approaches in urban water management in Asia, for the city of Georgetown, Penang. **Lee Kuan Yew School of Policy, National University of Singapore International Grant** of SGD4500.00 (RM11,584.71). Duration of project 2013-2014.
- Chan N W (PI) and Masazumi Ao. **Collaborative Learning of Integrated River Basin Management: A Comparative Study of the Tsurumi River Management Model and Pinang River Management Model**. The sumitomo Foundation Fiscal 2014 Grant for Japan-related Research Projects. Duration 31 April 2015 – 31 March 2016. Grant Amount is US\$6500.00 (RM23,354.50).
- Chan NW (PI), Masazumi Ao and Hidefumi Imura. **Research, Development and Publication of a Textbook titled "Textbook for Sustainable Urban Development Program Volume 1"**. Yokohama City University Global Cooperation Institute for Sustainable Cities (GCI) Grant of RM21,840.00.
- Tan Mou Leong (PI), Chan Ngai Weng, Ruslan Rainis, Wan Ruslan Ismail, Narimah Samat, James Haywood, Matthew Hawcroft and Kevin Ivan Hodges. **Impacts of PRecipitation from Extreme StormS - Malaysia (IMPRESS – Malaysia)**. Newton-NERC Grant, 203.PHUMANITI.6780001, 1 Jan 2019 to 31 Dec 2021.
- Chan N W (PI), Hong C.W., and Baker, H. International Project between Water Watch Penang and Clean International titled **"Water Conservation in Penang Schools, Malaysia"**. Grant from INTEL International Via Clean International totaling US\$210,695.00 (RM941,451.17)
- Chan N W (PI), Hong C.W., and Baker, H. International Project between Water Watch Penang, Clean International and Gravity Water titled **"Rainfall Harvesting Project in Kelantan and Penang Schools, Malaysia"**. Grant from INTEL International Via Clean International totaling RM267,000.00

- Chan N W (PI) **A Quantitative Analysis of Rainfall Patterns and Drought Occurrences in Northwest Peninsular Malaysia.**
- M.A. Dissertation Research, Funded by the University of Malaya via Tutorship Scheme worth RM36,000.00 over 3 years (June 1977 - January 1981).
- Chan N W (PI) **The Climate of Penang Hill : A General View of Existing Climatic Conditions as Compared to its Surrounding Lowlands.** Funded by Universiti Sains Malaysia's Short-term Research Grant Project titled `Kajian Tentang Ciri-Ciri Persekitaran dan Diversiti Flora dan Fauna Bukit Bendera Pulau Pinang'. A total of RM13,736.00 was approved (February 1991 - August 1991).
- Chan N W (PI) **Amalan-Amalan Penanaman Padi Di Sawah Sempadan dan Sungai Burong, Mukim Tanjong Karang dan Pengaruhnya Terhadap Perubahan Kualiti Air Permukaan,** Funded by Universiti Sains Malaysia's R & D Social Science Research Grant Project titled `Satu Kajian Tentang Perubahan Kualiti Air Permukaan Akibat Aktiviti-Aktiviti Dalam Kitaran Penanaman Padi di Mukim Tanjong Karang, Daerah Kuala Selangor' (August 1988 -August 1991). A total of RM89,390.00 was approved (Translation: Padi Farming Practices in Sawah Sempadan and Sungai Burong, Mukim Tanjong Karang and its influences on Surface Water Quality Changes')
- Chan N W (PI) **The Influence of Climate, especially Floods, on Agriculture, Tourism and Other Economic Activities in the East Coast of Peninsular Malaysia,** Short term Research Grant, Universiti Sains Malaysia totaling RM18,940.00 (August 1995 - August 1997).
- Chan N W (PI & Hydrologist); Dr Wan Ruslan Ismail (Geomorphologist); Dr Ab Latif Ibrahim (Climatologist/Water Resource Expert); and Associate Professor Dr Morshidi Sirat (Urban/Industrial Geographer and Planner). A total of RM44,840.00 was approved by the Institute of Strategic and International Studies (ISIS) Malaysia for our research project "**Urban Sustainability and the Effects of Rapid Socio-Economic, Industrial and Infrastructure Development in Penang Island on the Environment, with special reference to Soil Erosion, Landslides, Water Pollution and Flooding**" (September 1996 - April 1998).
- Chan N W (PI) **Hill Land Development and Effects On The Environment: Some Case Studies In Bukit Bendera (Penang), Bukit Larut (Perak) And Cameron Highlands (Pahang).** IRPA Short Term Research Grant, Universiti Sains Malaysia. A total of RM14,380.00 was approved for this project (1 August 1998 - 31 July 1999).
- Chan L K (PI), Che Salmah, Chan N W and Ho S H *Climate and Hydrology of Pantai Acheh Forest Reserve, Penang.* Part of the Malaysian Nature Society (Penang Branch) Project on **Climate, Hydrology, Flora and Fauna Diversity and the Role of the Pantai Acheh Forest Reserve as a National Park in Pulau Pinang.** A Total of RM14,000.00 was approved for this project (1 December 1999 - 31 -December 2000).
- Chan N W (PI) **Assessment of Available Water Resources, Water Supply and Demand, Issues, Threats and Recommendations for Sustainable Development of Water Resources in Penang in the 21st Century.** Funding applied for under the Short-term Intensification of Research in Priority Areas (IRPA) of the Ministry of Science, Technology and the Environment (MOSTE) of Malaysia. Total funding approved is RM8,698.20. (August 2000 to July 2002).
- Chan N W (PI) **An Assessment of Climate Change in Cameron Highlands.** IRPA Short-term Research under the 8<sup>th</sup> Malaysia Plan totaling RM17,014.00 (Research Period is 1.4.2002-31.3.2003).
- Chan N W (PI) **Developing a Model of Flood Hazards on Urban Floodplains in Malaysia.** Universiti Sains Malaysia Fundamental Research Grant (FRGS) Year 2003. Total funding approved is RM66,530.00. Prof Koh H L and Assoc. Prof. Aminuddin Ab Ghani were later incorporated into the research (Research Period is from 1 October 2003 - 30 September 2005).
- Chan N W (PI), Norizan Md Nor and Suriati Ghazali **Environmental Change and Sustainable Tourism: A Study of Impacts, Benefits and Involvement of Orang Asli Communities Along the Perak-Pahang-Kelantan Borders.** IRPA Short-term Research under the 8<sup>th</sup> Malaysia Plan. This is a joint project with Associate Professor Dr Norizan Md Nor and Dr Suriati Ghazali. Total funding sought is RM19,974.00 (Research Period is 1 April 2004 - 31 March 2005).

- Chan N W (PI) **Ecotourism and Environmental Conservation in Small Islands in the East Coast of Peninsular Malaysia.** Universiti Sains Malaysia Short Term Research Grant (A/C No. 304/PHUMANITI/637069). Amount approved is RM15,930.00 (Period of research 15 October 2006 – 14 October 2008).
- Chan N W (PI), Che Salmah Md Rawi and Tarmiji Masron **Modelling Environmental Awareness, Perception, Education and Lifestyle Changes in Environmental Conservation in Major Cities in Malaysia. FRGS Grant 203/PHUMANITI/671011** (Research Period is 1 November 2006 - 31 October 2009 & Amount Approved is RM60 000.00).
- Jabil Mapjabil (PI), Chan N W, Norizan Md Nor and Suriati Ghazali **Developing A Comprehensive Model on Ecotourism Incorporating Local Communities, tour Operators, Hoteliers and Tourists Towards Sustainable Development in Highlands Areas in Malaysia. FRGS Grant 203/PHUMANITI/671014.** (Research Period is 1 November 2006 - 31 October 2009 & Amount Approved is RM60 000.00).
- Anisah Lee Abdullah (PI), Chan N W and Suriati Ghazali **Traditional Coastal Fishing Communities in North Malaysia: Towards A New Model For Sustainability. Fundamental Research Grant Scheme (FRGS)** (Research Period is 1 September 2007 - 31 August 2010 & Amount Approved is RM60 000.00).
- Chan N W (PI), Jabil Mapjabil and Tarmiji Masron **Tourist Perception, Needs and Willingness to Pay for Tourism Products and Facilities in Kinabalu Park, Sabah.** Universiti Sains Malaysia “Short Term Research Grant”304/PHUMANITI/638149 (Research Period is 1 July 2008 – 30 June 2010 & Amount Approved is RM19,983.00).
- Saidatulakmal Mohd (PI), Chan N W and Jacqueline Liza Fernandez **The Forgotten Heritages of Penang – Contingent Valuation Study.** Universiti Sains Malaysia “Research University Grant” 1001/PSOSIAL/816075. (Research Period is 2 Years: 15 November 2008 – 14 November 2010 & Amount Approved is RM152,108.68).
- Saidatulakmal Mohd (PI), Chan N W and Jacqueline Liza Fernandez **The Forgotten Heritages of Penang – Contingent Valuation Study.** Universiti Sains Malaysia “Research University Grant” 1001/PSOSIAL/816075. (Research Period is 2 Years: 15 November 2008 – 14 November 2010 & Amount Approved is RM152,108.68).
- Abu Talib Ahmad (PI), Chan N W (Team Leader on Natural Heritage and Man-Environment Reklationships), Sohaimi Abdul Aziz (Team Leader on Cultural Heritage), Ooi K G (Team Leader on Historical Heritage), Jelani Harun, Hajar Rahim and Ruslan Rainis (Team Leader on GIS) **Natural and Cultural Heritage Focussing on the Northern Region of Peninsular Malaysia (Perlis, Kedah, Penang and North Perak).** Universiti Sains Malaysia “Research University (RU) Grant” 1001/PHUMANITI/816037 (Research Period is 1 October 2007 – 30 September 2010. Approved Amount is RM985,600.00).
- Chan N W (PI), Asyirah Abdul Rahim and Narimah Samat **A Comparative Evaluation of The Potentials, Needs And Sustainability of Taman Negara National Park, Kinabalu National Park and Langkawi Geopark As Ecotourism Sites.** Universiti Sains Malaysia “Research University (RU) Grant” 1001/PHUMANITI/816097 (Research Period is 15 May 2009 – 14 May 2011 & Amount Approved is RM93,969.12).
- Chan N W (Main Supervisor) and Hong Chern Wern (PI, PhD Candidate) **Sustainable National Park Management Modelling by Using the Driving Force-Pressure-State-Impact-Response (DPSIR) Framework: The Case of Penang National Park.** Universiti Sains Malaysia “Incentive Grant (Postgraduate Student)” 1001/PHUMANITI/821103 (Research Period is 6 Jan 2009 – 31 Dec 2012 & Amount approved is RM15,000.00).
- Chan N W (PI) and Tarmiji Masron **The Significance of Human Factors in Effective Disaster Management in Malaysia: A Case Study of Flood Disasters.** Universiti Sains Malaysia “Research University (RU) Grant” 1001/PHUMANITI/816106 (Research Period is 1 June 2009 – 30 May 2011 & Amount approved is RM99,990.00).
- Chan N W (Main Supervisor) and Azreen Rozainee Binti Abdullah (PI, PhD Candidate) **Sustainable Natural Heritage Management of Royal Belum.** Universiti Sains Malaysia “Incentive Grant (Postgraduate Student)” 1001/PHUMANITI/821103 (Research Period is 1 Sep 2009 – 31 Oct 2012 & Amount approved is RM15,000.00).

- Chan N W (PI), Mashhor Mansor, Lai Sai Hin and Narimah Samat. **A Study of River Models in Malaysia**. Account Number 203/PHUMANITI/6711198. Duration - 1 July 2011 to 30 June 2013. RM50,000.00 approved. Fundamental Research Grant Scheme (FRGS). 203/PHUMANITI/6711198
- Narimah Samat (PI), Chan N W et al. **"Modelling and Identifying Sustainable Urban Growth Boundary: A Study on Georgetown Conurbation and its Impact on Urban And Peri-Urban Ecosystems"**. Project Number 203/PHUMANITI/6711199. 1 August 2011-31 July 2013. RM50,000.00 approved. Fundamental Research Grant Scheme (FRGS).
- Nor Azazi Zakaria (PI), Chan N W. (Team Leader 1), Mohd Nor Desa (Team Leader 2), et al. **Urban Water Cycle Processes, Management & Societal Interactions: Crossing from Crisis to Sustainability**. Kementerian Pendidikan Tinggi Long Term Fundamental Grant Scheme (LRGS) 2011-2016. RM10 million approved.
- Chan N. W. (PI), Mazlin Mokhtar, Salmijah Surif, Chamhuri Siwar, Lee Yook Heng, Jamaluddin Md Jahi, Maimon Abdullah, Maketab Mohamed, Suriati Ghazali, Narimah Samat, Asyirah Abdul Rahim, Lok Chong Hoe, Noor Shakirah Mat Akhir **Human Aspects of Water Security Focussing on Governance, Water Demand Management and Non-Revenue Water Management in Urban Areas in Malaysia**. Kementerian Pendidikan Tinggi Long Term Fundamental Grant Scheme (LRGS) 2011-2013. Account Number 203/PKT/6724003. RM1,013,400.00 approved. 203/PKT/6724003. Jun 2011-Jun 2014.
- Chuah Chiew Yen (PI, Masters Candidate) and Chan N W (Main Supervisor) **Assessing the Effectiveness of Environmental Education System in Secondary Schools in Penang, Malaysia**. Universiti Sains Malaysia "Postgraduate Research Grant Scheme (PRGS) 1001/PHUMANITI/837071 (Research Period is 15 Sep 2011 – 14 Sep 2013 & Amount approved is RM3,335.00).
- Badaruddin Mohamed (PI), Chan N. W., Alias Abdullah, Vikneswaran Nair, Nimatul Adha Nordin, Awangku Hassanal Pengiran Bagul, A'zizan Hussain **Physical & Environmental Rural Tourism Capacity Framework**. Kementerian Pendidikan Tinggi Long Term Fundamental Grant Scheme (LRGS) 2011-2016. Account No. 304/PPBGN/650570/T121. RM1,944,888.00 approved.
- Chan N W (PI), Ku Ruhana (UUM), Mohamad Zaini Karim (UUM), Abdul Razak Chik (UUM), Sallahuddin Hassan (UUM) and Fader Abdullah (UiTM, Perlis). **Long Term Research Project (LRGS) under UUM titled "Economic Model for Flood Disaster Impact Analysis"**, RM20,000.00, 01 August 2012 – 31 July 2016. Account Number 304/PHUMANITI/650710/U143.
- Chan N W (PI), Main Rindam, Radiah Yusof and Nabsiah Abdul Wahid. **Engaging and educating orphans and primary school children in water and wastewater quality awareness and monitoring in Penang**. University-Industry-Community Engagement Grant from Division of Industry & Community Network USM. Duration is from 1 July 2012 to 31 December 2015. Grant Amount is RM28,427.00.
- Chan N W (PI), Narimah Samat and Suriati Ghazali. **Socio-economic Wellbeing: Assessing Total Flood Impacts Via Direct or Indirect and Tangible or Intangible Impacts of Flood Disasters in the Sg Kelantan Basin**. Ministry of Education Fundamental Research Grant Scheme (FRGS) Flood Management Grant 2015. Duration is from 1 April 2015 to 31 December 2015. Grant Amount is RM70,000.00. Account Number 203/PHUMANITI/6711476.
- Chan N W (PI), Lee Lai Kuan, Narimah Samat, Aminuddin Ab Ghani and Suriati Ghazali. **Governance for Disaster Risk Reduction: Enhancement of Standard Operating Procedures (SOP) on Flood Disaster Awareness, Preparedness, Warning System, Evacuation Plan & Institutional Arrangements for Flood Risk management in the Sungai Pahang River Basin**. Ministry of Education Transdisciplinary Research Grant Scheme (TRGS) on Flood Management 2015 under the TRGS Programme titled "Flood and Flood Disaster: Integrated Assessment of Extreme Rainfall and Microbial Variability, and Enhancement of Standard Operating Procedures (SOP) for Flood Disaster Awareness: Case Study of Sungai Pahang River Basin". Duration is from 1 April 2015 to 31 December 2015. Grant Amount is RM105,710.00. Account Number 203/PHUMANITI/6767005.

- Chan N W (PI) and Seow Ta Wee. **Effects of Floods on Human Society and the Role of Social Capital in Recovery in Malaysia.** Fundamental Research Grant (FRGS) from Ministry of Education. Duration from 1<sup>st</sup> July 2014 to 30 June 2016. Grant amount is RM87,000.00. Account Number 203/PHUMANITI/6711393.
- Chan N W (PI) **Environmental Education Via Environmental Quiz for Poor Students in Lower Secondary Schools di Penang State Towards Producing Environmentally Sensitised Citizens.** University-Industry-Community Engagement Grant from Division of Industry & Community Network USM. Duration is from 1<sup>st</sup> August 2014 to 31<sup>st</sup> July 2015. Grant Amount is RM12,000.00.
- Syed Zainal Ariff bin Syed Jamaluddin (PI), Chan Ngai Weng and Norizan Md Nor. **Program Kelestarian Bahasa, Tenaga dan Alam Sekitar antara USM dan Sekolah Menengah di Pulau Pinang.** University-Industry-Community Engagement Grant from Division of Industry & Community Network USM. Duration is from 15 August 2014 to 14 August 2015. Grant Amount is RM6,000.00.
- Seow Ta Wee (PI), Chan Ngai Weng (Mentor & Co-Researcher), David Martin, Goh Kai Chen & Goh Hui Hwang. **Developing Optimization Model for Solid Waste Management in Johor Bahru City, Johor. Research Acculturation Collaborative Effort (RACE) Fasa 2/2013.** Grant is from Ministry of Higher Education Malaysia. Duration from 9<sup>th</sup> July 2014 to 31<sup>st</sup> December 2014. Grant amount is RM20,000.00 for Mentor. Account Number 1001/PHUMANITI/AUPRM0058.
- Sulzakimin Hj Mohamed (PI) and Chan Ngai Weng (Mentor & Co-Researcher). **Enhancing Performance in Malaysia Local Governments Towards Sustainable Development Focussing on Knowledge Transfer Practices Framework. Research Acculturation Collaborative Effort (RACE) Fasa 3/2015.** Grant is from Ministry of Education Malaysia. Duration from 14<sup>th</sup> May 2015 to 15<sup>th</sup> May 2016. Total grant amount is RM10,000.00 for Mentor. Account Number 1001/PHUMANITI/AUPRM00531.
- Narimah Samat (PI), Morshidi Sirat, Chan Ngai Weng, Ruslan Rainis, Wan Ruslan ismail, Abdul Fatah Che Hamat, Anisah Lee Abdullah, Norizan Md Nor, Suriati Ghazali, Aishah Knight Abdul Sattar, Asyirah Abdul rahim, Azlinda Azman, Jabil Mapjabil, Khoo Suet Leng, Nooriah Yusof, Saidatulakmal Mohd, Sharifah Rohaya Sheikh Dawood, Wan Mohd Muhyihuddin Wan Ibrahim, Zakaria Bahari, Zikri Mohamad, Zulyadini A Rahaman, Aziz Abdul Majid. **Spatial Inequalities: Framing Phenomena, Formulating Policies. Research University Team Grant.** Duration from 15 July 2013 to 14 July 2017. Grant amount is RM500,000.00.
- Chan N W (PI) **“Research on Public Perception, Practices and Commitment Towards Domestic Water Saving in Penang State”**, 1 August 2017 to 31 July 2018, totaling RM10,000 (Ten Thousand Ringgit). Grant Account Number 304/PHUMANITI/650906/W109.
- Tan Mou Leong (PI), Chan Ngai Weng, Fredolin Tangang@Tajudin Mahmu, Liew Ju Neng, Wan Ruslan Bin Ismail, Zulkifli Yusop, **Framework for assessing Southeast Asia Hydro-Climatic Drought (SEA-HCD)**, FRGS, RM76,200.00, Nombor Akaun 304/PHUMANITI/6711695; 01/01/2019-31/12/2021.
- Chan N W (PI), Narimah Samat, Aminuddin Ab Ghani and Nik Norma Nik Hasan. **Modelling the Fundamental Aspects of Community Flood Vulnerability Adaptation and Resilience Towards Climate Change in Kelantan, Malaysia.** FRGS, RM 74,6000.00, Nombor Akaun 203.PHUMANITI.6711693, 1 Jan 2019-31 Dec 2020. Dilanjut ke 31 Dis 2021.
- Chan N W (PI), Mella Othman dan Mohd Amirul bin Mahamud. **PGC-WWP water behaviour survey in Penang State. Dana Kerajaan Negeri Pulau Pinang melalui Penang Green Council. Jumlah Geran RM10,000.00,Tempoh Projek 1 Jan 2022-15 Nov 2022.**
- Chan N W (PI), Tan M L, Phang WL. **Perai River Pollution Sources Mapping Study.** Funded by Thinkcity, Grant Amount RM30,000.00. Project Duration 31 Aug 2019 - 27 Dec 2021.



- Tan M L (PI), Chan, N.W., Chan, D.J.J., Asyirah Binti Abdul Rahim and Yu, K.H. **Drought Adaption Due to Climate Change via Rainfall Harvesting in a School in Water-Stressed Penang**. Universiti Sains Malaysia, Grant funded by Bahagian Penyelidikan & Inovasi, Grant Amount RM11,600.00 Plus M6000.00 from community [Water Watch Penang & SRJK (T) Bayan Lepas]), Total Grant RM17,600.00. Project Duration 1 Jul 2021-30 Jun 2022.
- Chan N W (PI), Phang W L, Khor H T, Hong C W, Navamney L and Tan M L **Implementing Community Empowerment Program to Improve Livelihoods of Inland Fishing**. Funded by Yayasan Hasanah Foundation, Grant Amount RM180,000.00, Project Duration 1<sup>st</sup> July 2020 to 30<sup>th</sup> April 2021
- Chan N W (PI), Narimah Samat, Azizan Sabjan, Tan Mou Leong, Yen Siew Hwa, See Kok Fong and Seow Ta Wee. **“Study of social, cultural and economic aspects of sustainable aquaculture focusing on resource reclamation and reuse of aquaculture effluent” Under the LRGS Research Program titled “Resource Reclamation and Reuse from the Aquaculture Effluent”**, RM817,000.00, Account No. 203/ PHUMANITI/ 67215003; 1 Jan 2019 to 30 June 2023.
- See K.F. (PI) and Chan N. W. **Modelling a New Water Tariff Setting Mechanism through Performance Benchmarking Approach**. Approved amount RM54,300.00 Duration 01/11/2020 - 31/10/2022.

#### University

- Asha Suresh Chand (PI), Soo, L.C. and Chan N W **The Tasik Harapan Clean-up Project Using Effective Microbes (EM)**. Cimb Bank Berhad funded Project worth RM105000.00 (Research Period is 1 August 2010 – 31 March 2011. This project is to be extended for another 6 months with additional funding from Cimb Bank Berhad).
- Chan N. W. (PI), Cheok Kian Sheong, Mandy Koay, Edina Crnkic, Tan O.K., Mohamad Abdullah **Responsible Water Consumption Study in USM Saujana Café: A Dishwashing Study Pitting Dishwasher Against Manual Washing by Hand**. Grant sponsored by Reckitt Benckiser (M) Sdn Bhd totalling RM28,200.00. Period of Study is March 2010 to January 2011.
- Chan, N.W. (PI), Wan Ruslan Ismail, Abu Talib Ahmad and Ajindar Kaur **“Transforming School of Humanities Into An Example of A Best Management Practice (BMP) in Water Demand Management (WDM) In Terms Of Water Sustainability”**. Universiti Sains Malaysia “Delivering Excellence APEX Budget 2011” Grant. Account Number 1002/PHUMANITI/910301 (Project Duration is 25 March 2011 – 31 December 2011 & Total Grant awarded is RM327,000.00).
- Norizan Md Nor (PI), Chan N W, Lee L M, Salfarina et al. **“Delivering Excellence: APEX 2011: An Integrated Approach to Sustainable Rural-Urban Development for Rakyat Sejahtera”**. Universiti Sains Malaysia “Delivering Excellence APEX Budget 2011” Grant (Tempoh Projek ialah 25 Mac 2011 – 31 Disember 2011 & Jumlah Projek Yang diluluskan ialah RM600,000.00).
- Tan Mou Leong (PI) and Chan Ngai Weng. **Engaging and educating USM Students and Cleaning Staff in Restu-Saujana-Tekun Hostels in Universiti Sains Malaysia on the importance of water conservation towards water sustainability in USM**. University-Industry-Community Engagement Adhoc Grant from Division of Industry & Community Network USM. Duration is from 1 September 2017 to 31 Disember 2017. Grant Amount is RM1,500.00.
- Chan N W (PI), Khairul Rahman Ayub dan Asyirah Abdul Rahim. **Engaging and Educating Nibong Tebal Communities in the Importance of Bio-Ecological Drainage Systems of the USM Engineering Campus in the Control of Water Quality, Floods and Recreation**. University-Industry-Community Engagement Adhoc Grant from Division of Industry & Community Network USM. Duration is from 1 September 2017 to 31 Disember 2017. Grant Amount is RM3,000.00.
- Chan N W (PI) **“Universiti Sains Malaysia Water Savings Project 2012-2017”**. Universiti Sains Malaysia Special Project Approved By Vice-Chancellor” (Duration is 7 years from August 2010 to July 2017. Approved Funding came in July 2012 based on PBA Tariff Reduction of Monthly Water Bill of Account Number 570505035917 (Asrama USM Lot 229, 230, 235, 238 and 8944). Account No. 311/PHUMANITI/4117420. Year 1 Budget awarded is RM115,000.00.

## CONSULTANCY PROJECT

---

- **Consultant for the Dewan Bahasa dan Pustaka Malaysia** on the formalising of Bahasa Malaysia Terminology for Universities. Dewan Bahasa dan Pustaka Malaysia, Kuala Lumpur. The length of the consultancy was from 1st January 1987 to 31st August 1991 (National).
- **Consultant for the Malaysian Examination Council**, Kuala Lumpur in the preparation of Examination Questions for the STPM Geography Paper 4. (1977 - 1991) (National).
- **Consultant for the Malaysian Examination Council**, Kuala Lumpur in the preparation of Marking Schemes and the Marking of STPM Geography Paper 4 examination scripts (1977 - 1991) (National).
- **Consultant on the writing of Geography Textbooks for higher learning** at college and university level for the Dewan Bahasa dan Pustaka Malaysia, Kuala Lumpur (1986 - 1995) (National).
- **Consultant on the writing of Geography Textbooks for secondary schools** for Pustaka DELTA Sdn. Bhd. Taman Megah, Petaling Jaya (1986 - 1987) (National).
- **Erosion, Water Resources and Flooding Consultant for DCT Consultancy Services Sdn Bhd.** 10 Pesiaran Bukit Jambul (College Antarabangsa/International College) 11900 Bayan Lepas, Pulau Pinang. I carried out a study under the Penang Conservation Plan titled *Determining the current status of hill development, soil erosion and coastal erosion, and flooding in Penang; and suggestions for protection of hill land, controlling soil erosion and coastal erosion and flood mitigation for incorporation into the Penang conservation Plan* (1997-1999) (National).
- **Soil Erosion, Water Resources and Flood Consultant in the Penang State Chief Minister's Panel of EIA Evaluation Committee.** This committee reviews, evaluates and assesses the credibility of EIA reports submitted for environmentally sensitive development projects. It is based at DCT Consultancy Services Sdn Bhd. 10 Pesiaran Bukit Jambul (College Antarabangsa/International College) 11900 Bayan Lepas, Pulau Pinang. The committee is headed by Dr Leong Yueh Kwong (1996-1997) (National).
- **Climate, Water Resources and Flood Mitigation Consultant in AR & T Heritage Consultancy Sdn Bhd**, 128 Lebuhr Armenian, 10200 Penang for the project *Kajian Saliran Dan Konsep Pembangunan Untuk Kawasan Barat Pulau Pinang (Drainage and Development Concept For Western Penang Island)*. Consultant for section on Hydrology (July 1998 - May 1999) (National).
- **Hydrology Consultant for The Department of Environment Malaysia's "River Classification Project"**. I carried out the study and wrote the report on the hydrology of three river basins, viz. the Sg Pinang, Sg Muda and Sg Merbok river basins. Coordinated by Professor Mashhor Mansor of the School of Biological Sciences, USM (August 1998 to August 1999) (National).
- **Climatology Consultant in the Malaysian National Committee for Scientific Research on Climate Impacts.** Secretariat at Malaysian Meteorological Service. MMS Headquarters, Jalan Sultan, 46100 Petaling Jaya, Selangor (Since 8 March 1997 - 2000) (National).
- **Infrastructure and Water Resources Consultant in the Regional Specialisation Study for States in Malaysia (Kajian Pengkhususan Wilayah Di Malaysia).** A consultancy Project to be carried out for the Economic Planning Unit, Prime Minister's Department Malaysia. Project leader is Assoc. Prof. Dr Morshidi Sirat. I am in charge of the two Sections on *Water Resources* and *Infrastructures* (August 1999 to March 2000) (National).
- **Hydrology and Water Resources Consultant in the Project: "Formulation of Guidelines for the Development and Environmental Management of Water Catchment Areas in Penang State"**. A consultancy Project to be carried out for Edtech Associates Sdn. Berhad, Analytical Chemists, Environmental & Scientific Consultants, 123-L, Macalister Road, P.O. Box 163, 10720 Penang. I am in charge of formulating guidelines for the Section on Hydrology and Water Resources (June – December 1999) (National).

- **Hill Land Development, Water Resources and Flood Mitigation Consultant in the “Penang State Development Plan 2001 – 2010 Study”**. An upcoming consultancy project to be carried out for DCT Consultancy Services Sdn Bhd. And Socio-Economic and Environmental Research Institute (SERI). I am in charge of the Sections on Hill Land Development, Water Resources and Hydrology (Flooding) (2000 - 2001) (National).
- **Water Resources Consultant for World Wildlife Fund (Malaysia) WWF**. I am consultant to WWF in their “Water For Life” programme (2000 – 2001) (National).
- **Water Resources Consultant for the Malaysian Nature Society (MNS)**. I am consultant to MNS in their “Water Resources Conservation” programme (1999– 2000) (National).
- **Water Resources and Environmental Hazards Consultant in the Geoinformatic Unit, Universiti Sains Malaysia**
- (Consultant since 2000 til Present) (National).
- **Appointed Hydrology and Water Resources Consultant in Edtech Associates Sdn Bhd, 123-L, Macalister Road, P.O. Box 163, 10720 Penang** (23 March 2002 – Present) (National).
- **Project Leader & Consultant for Climate, Physical Geography & Hydrology in Edtech Associates Sdn Bhd, 123-L, Macalister Road, P.O. Box 163, 10720 Penang**. For the project “Scientific Assessment of the Impact of the Proposed Helicopter Harvesting Project in Kedah Darul Aman (23 January 2002 – 31 March 2003) (National).
- **Project & Study Leader for WWF-Malaysia 2004 Assessment on the Sustainability of Malaysia’s Water Resources Utilisation by Using Sustainable Development Indicators (SDI)**. This project is carried out by Water Watch Penang for WWF-Malaysia, 49 Jalan SS223/15, 47400 Taman SEA, Petaling Jaya, Selangor D.E., Malaysia (March – July 2004) (National).
- **Consultant for the Malaysian Examination Council**, Kuala Lumpur in the preparation of Examination Questions for the STPM Geography Paper 1 (2005 - Present) (National).
- **Consultant for the Malaysian Examination Council**, Kuala Lumpur in the Revision & Reorganisation of STPM Geography Paper 942 (Paper 1 & 2) (2004 - Present) (National).
- **Consultant Team Leader for the Malaysian Examination Council**, Kuala Lumpur in the marking & co-ordination of marking of Examination Scripts for the STPM Geography 942 Paper 1. Physical Geography (2005 - Present) (National).
- **Consultant for the project titled "River Inventory and Monitoring Programme"** managed by the River Engineering and Urban Drainage Research Centre (REDAC), Engineering Campus USM under the contracted work for the Sarawak Rivers' Board (SRB) (2008-2009) (National).
- **Consultant to Curriculum Development Section, Ministry of Education Malaysia**, Floor 4-8, Parcel E, Federal Governmental Complex 62604 PUTRAJAYA in Setting the Standard Contents of “Malaysia Negaraku Year 2” (Elements of Geography and Environment) (10 – 12 Mac 2010) (National).
- **Consultant to Malaysian Examination Council (Majlis Peperiksaan Malaysia)**, Kuala Lumpur in Peperiksaan STPM 2010, STPM Geografi 942 (Kertas 1 & 2) (9 June 2010-Present) (National).
- **Review of National Water Resources Policy** appointed by Drainage and Irrigation Department, Kementerian Sumber Asli dan Alam Sekitar Malaysia (7 January – 31 January 2011) (National).
- Yasuyuki Sawada (PI), Fukunari Kimura, Sothea Oum, Sommarat Chantarat, Sujata Satapathy, Brent Layton, Mitsuyo Ando, Le Dang Trung, Sann Vathana, Danilo Israel, Jonathan A Lassa, Ngai Weng Chan, Allen Lai Yu Hung, Nipon Poapongsakorn and Pitsom Meethom and Ikumo Isono. **ERIA Research Project 2011 Working Group on "Economic and Welfare Impacts of Disasters in East Asia and Policy Responses"**. Awarding Agency is Economic Research Institute for ASEAN and East Asia (ERIA). Duration - 12 Mar 2011-5 Mar 2012. Sub-Project Under me is titled “impacts of disasters and disaster risk management in Malaysia: the case of floods”. Total Grant Approved RM22,000.00 (International).
- **Consultant (Non-Monetary) to Penang State Government** in the Technical Advisory Committee on Slope Development, Slope Stability & Slope Management Strategies, Penang State Government, December 2013-December 2015 (State).

- **Consultant (Community Engagement and Outreach) to Drainage and Irrigation Department Malaysia** in the projek Pelan Pengurusan Lembangan Sungai Bersepadu (IRBM), Sungai Perai, Pulau Pinang/Kedah. 28 December 2017 - 27 December 2018 (National).
- **Consultant (River Management and Water Pollution) to Think City Sdn Bhd.** in the projek Kajian Pemetaan Pencemaran Sg Perai, 31 August 2018 - 27 December 2021(State).
- **Consultant (Geo-Disasters) to PLANMalaysia (Jabatan Perancangan Bandar dan Desa)** dalam Kajian Rancangan Tempatan Majlis Daerah Bera, Pahang 2035 (Penggantian), 9 May 2022 – 9 May 2023 (National).

## PAPER PRESENTED

---

### Conference

A total of 550 papers were presented at conferences, seminars, workshops and other forums. Please contact me at [nwchan@usm.my](mailto:nwchan@usm.my) if you need this information.

### Plenary Speaker

A total of 550 papers were presented at conferences, seminars, workshops and other forums. Please contact me at [nwchan@usm.my](mailto:nwchan@usm.my) if you need this information.

### Invited Seminar

A total of 550 papers were presented at conferences, seminars, workshops and other forums. Please contact me at [nwchan@usm.my](mailto:nwchan@usm.my) if you need this information.

### Invited Speaker

A total of 550 papers were presented at conferences, seminars, workshops and other forums. Please contact me at [nwchan@usm.my](mailto:nwchan@usm.my) if you need this information.

### Event Organiser

- Committee Member, Local Organising Committee, National Conference on Preservation and Promotion of Heritage, 24-26 November 2010, Penang, Malaysia (1 January 2010- 26 November 2010)
- Committee Member, Local Organising Committee, 3<sup>rd</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Sustainable Solutions for Global Crisis of Flooding, Pollution and Water Scarcity, 6-9 December 2011, Penang, Malaysia (1 Jan 2010-9 Dec 2011)
- Organising Chairman, National Final Conference on "The Natural Heritage of Northern Peninsular Malaysia", 2-3 August 2010, Equatorial Hotel Penang (1 January 2010-3 August 2010)
- Organising Chairman, National Conference on "The Natural Heritage of Northern Peninsular Malaysia", 5-6 October 2009, Equatorial Hotel Penang (1 January 2009-6 October 2009)
- Committee Member, Local Organising Committee, National Conference on Preservation and Promotion of Heritage, 24-26 November 2010, Penang, Malaysia (1 January 2010-9 26 November 2010)
- Committee Member, Penang State Committee on Malaysia Environmental Week (Penang State Level), May-August 2007, Penang State, Organised by Department of Environment Malaysia and Penang State Government (Department of Tourism Development & Environment) (May-August 2007)

- Committee Member, National Committee on 2nd International Conference on “Managing Rivers in the 21st Century: Solutions towards Sustainable River Basin”, 6th - 8th June 2007, Kuching, Sarawak, Malaysia. Organised by River Engineering & Urban Drainage Research Centre (REDAC), USM (2007).
- Committee Member, National Conference on National Heritage, Universiti Sains Malaysia (25 January 2010 – 26 November 2010)
- Committee Member, Workshop on “Future Directions of School of Humanities USM (30 May 2005 –21 June 2005)
- Organising Chairma, Organised an International Seminar titled “Sustainable Development of Cameron Highlands: Issues & Challenges”, 11-12 Disember 2004, Brinchang, Cameron Highlands. Co-sponsored by The British Council DFID Higher Education Links & School of Humanities USM.
- Organising Chairman, Organised “An Introductory Course in Ecotourism”, 6 Disember 2004, School of Humanities, Universiti Sains Malaysia. Co-sponsored by The British Council DFID Higher Education Links& School of Humanities USM.
- Organising Chairman, Organised a Course titled “An Introductory Course in Ecotourism”, School of Humanities, Universiti Sains Malaysia. Co-sponsored by The British Council DFID Higher Education Links and School of Humanities USM (11 December 2003)
- Organising Committee, “1<sup>st</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Issues & Challenges”, 21 – 23 September 2004, Pulau Pinang. Jointly organized by REDAC Universiti Sains Malaysia, DID, MANCID, Humid Tropics Centre KL, LESTARI, UiTM, NAHRIM and International Association of Hydraulic Engineering and Reserch (January 2003 – Septemver 2004).
- Organising Committee & Session Convenor, International Conference “Southeast Asia Since 1945: Reflections and Visions”, 20 – 23 July 2004, Pulau Pinang, Malaysia. Organised by Asia Pacific Research Unit, Pusat Pengajian Ilmu Kemanusiaan, Universiti Sains Malaysia (January 2003 – July 2004).
- Organising Committee, “Geography Day”, 23 June 2004, School of Humanities USM, Pulau Pinang, Malaysia. Jointly organised by Geography Section, School of Humanities USM and National Geographical Association of Malaysia (23 June 2004).
- Secretary, National Conference on "Rivers '99: Towards Sustainable Development", Jointly organised by Universiti Sains Malaysia and the Drainage and Irrigation Department Malaysia, 14-17 Oct 1999, Conference Hall, Universiti Sains Malaysia, Penang.
- Committee Member, Organising Committee, Forum "Current Economic Crisis - Malaysian Responses" Jointly organised by The School of Social Sciences, The School of Management and The Academic and Administrative Staff Association Universiti Sains Malaysia, 1<sup>st</sup> March 1998, Dewan Budaya, Universiti Sains Malaysia, Penang.
- Organising Chairman, 13<sup>th</sup> International Academic Consortium for Sustainable Cities (IACSC) 2022, 12<sup>th</sup> –13<sup>th</sup> September 2022, Theme “Sustainable Urban Living in a Covid-19 & Climate Change Environment” (Online).
- Organising Chairman, International conference on advances in environmental research, Nanyang Technological University Singapore. Organised by Hong Kong Chemical, Biological & Environmental Engineering Society, 24-26 March 2023 9<sup>th</sup> International Conference on Advances in Environment Research (ICAER 2023) (International).

#### Keynote Speaker

- (2010) *Impacts of Human Habitat Development on the Environment – Challenges and the Way Forward*. Keynote Paper in Jamaluddin Md. Jahi, Muhammad Rizal Razman, Azahan Awang, Kadaruddin Aiyub and Kadar Ariffin (Editors) *Human Habitat Transformation and Environemental Change*, Proceedings of The 2<sup>nd</sup> International Conference on Human Habitat and Environment, 15-16 June 2010, Putra Nilai, Negeri Sembilan. Bangi: Institute of the Malay World and Civilisation (ATMA), UKM and Environmental Management Society (EMS) Malaysia, 3-24.

- (1998) *From Rain to Drain and Back Again*. Local Seminar – “Protecting and Managing Fresh Water”. Capacity Building Seminars on Critical Issues in the Urban Environment, 28 November 1998, Pusat Pengembangan Sumber Manusia Majlis Perbandaran Petaling Jaya, Selangor, Malaysia. Organised by Environment Protection Society Malaysia (EPSM) and Danish Cooperation for Environment and Development (DANCED).
- (2004) *An Overview on Flood Management in Malaysia* International Conference “ICHE 2004 – The Sixth International Conference on Hydro-Science and Engineering”, 30 May – 3 June 2004, Brisbane. Organized by National Centre for Computational Hydroscience and Engineering, The University of Mississippi.
- (2004) *Managing Water Resources in the 21<sup>st</sup> Century: Involving All Stakeholders Towards Sustainable Water Resources Management in Malaysia*. Local Seminar of Environmental Management Programme, Centre For Postgraduate Studies, Universiti Kebangsaan Malaysia, 15 September 2004, Bangi. Organised by Environmental Management Programme, Centre for Graduate Studies, Universiti Kebangsaan Malaysia.
- (2004) *Sustainable River Management in Malaysia: Involving All Stakeholders*. International Conference “1<sup>st</sup> International Conference on Managing Rivers in the 21<sup>st</sup> Century: Issues & Challenges”, 21 – 23 September 2004, Pulau Pinang. Jointly organized by Universiti Sains Malaysia, DID, MANCID, Humid Tropics Centre KL, LESTARI, UiTM, NAHRIM and International Association of Hydraulic Engineering and Research.
- (2005) “Forestry and Highland Development in Peninsular Malaysia: Issues & Challenges”. International Conference “MSA Golden Jubilee International Science Congress (ISC) 2005 – “Science for Humanity”, 3- 6 August 2005, PWTC, Kuala Lumpur, Malaysia. Organised by Malaysian Scientific Association (MSA)
- (2005) Local Seminar “Seminar on Environment During Postgraduate Week of Universiti Kebangsaan Malaysia”, 22 July 2005, Bangi, Malaysia. Invited to present a Keynote Paper titled “Sustainable Management of Rivers in Malaysia: Issues and Challenges”. Organised by Centre of Postgraduate Studies,  
  - Universiti Kebangsaan Malaysia
- (2005) National Seminar on Field Work “Curriculum, Procedure and Application in Geography”, 17-18 August 2005, Universiti Sains Malaysia, Penang, Malaysia. Invited to present a Keynote Paper titled “Fieldwork Methodology in River Studies in Physical Geography” Organised by School of Humanities, Universiti Sains Malaysia.
- (2005) International Forum on Urban Environmental Management in Southeast Asia, 18-19 August 2005, Asian Institute of Technology, Bangkok, Thailand. Invited to present a Keynote Paper titled “*Water and Sanitation Policies in Malaysia: Issues and Challenges*”. Organised by SIT in collaboration with CIDA/AIT Southeast Asia Urban Environmental Management Applications (SEA-UEMA) Project and UNESCAP.
- (2007) Regional Training of Trainers (TOT) Course on Integration of Human Values-Based Water, Sanitation and Hygiene Education (HVWSHE) Lessons in Southeast Asian Schools, 16-25 May 2007, SEAMEO RECSAM, Gelugor, Penang, Malaysia. Invited to present a Keynote Paper titled “Thematic Strand 3: Water, Human Dignity and Social Equity”
- (2007) International Conference 8<sup>th</sup> International Joint World Cultural Tourism Conference 2007, 16-18 November Busan. Invited to present the Keynote Paper “*Developing Clan Jetties as Heritage Buildings for Conservation and Tourism in Penang*”.
- (2008) National Echo Training Course on Integration of Human Values-based Water, Sanitation and Hygiene Education (HVWSHE), 29-31 Jan 2008, SEAMEO RECSAM, Gelugor, Penang, Malaysia. Invited to present a Keynote Paper titled “Thematic Strand 1: Water and Education for Sustainable Development & Thematic Strand 3: Water, Human Dignity and Social Equity”
- (2008) Local Governmental Dialog “Majlis Dialog Kemena River Stakeholders’ Initiative, Bintulu Development Authority, Sarawak, 29 February 2008”. Organised by Sarawak Rivers Board and Bintulu Development Authority. Invited to present a keynote paper titled “Kemena River Stakeholders’ Initiative Programme”.

- (2008) 2<sup>nd</sup> National Conference on Society, Space & Environment 2008 “Towards Sustainable Heritage & Future”, 2-3 June 2009, School of Humanities, Universiti Sains Malaysia, Penang. Invited to present a Keynote Closing Paper titled *Sustainable Water Resources Management Involving Government, Private Sector & Civil Society: The Way Forward*.
- (2010) *Impacts of Human Habitat Development on the Environment – Challenges and the Way Forward*. Invited Keynote Paper presented in the 2<sup>nd</sup> International Conference on Human Habitat and Environment, 15-16 June 2010, Putra Nilai, Negeri Sembilan. Organised by Institute of the Malay World and Civilisation (ATMA), UKM and Environmental Management Society (EMS) Malaysia.
- (2010) *Examples of Best Management Practices in Water Demand Management & Role of Smart- Partnerships Between Government, Private Sector & Civil Society*. Invited Keynote Paper presented in the Aqua Save Workshop & Exhibition, 25 June 2010, Auditorium Penang Skills Development Centre (PSDC), Bayan Lepas, Penang. Organised by Perbadanan Bekalan Air Pulau Pinang Sdn Bhd.
- (2010) “Water Demand Management (Nega-Litres) Demonstration Project at N-PARK Condominium BMP Project: A Smart-Partnership Pilot Project on IWRM Involving Government-Private Sector-NGO-Local Community”. Keynote paper presented at **National Seminar/Workshop on Integrated Water Resources Management (IWRM) “Making IWRM Work at Local Level” - “Lessons Learnt”, 25 Oktober 2010, Tanjung Bungah Hotel, Penang.**
- (2011) “Water Efficiency Management: for Business and Domestic Sectors towards a Green Economy”. Keynote Paper presented at
- **Seminar on “Narmada-The Lifeline”, 22 March 2011, Gandinagar (Gujarat), India.**
- (2011) “Water Efficiency Management: for Business Sectors from Green Aspects”. Keynote Paper presented at **Green Profits Conference, Green Solutions Tradeshow and Conference, 24-26 March 2011, PISA, Penang.**
- (2011) “Water Services: The Concerns”. Keynote Paper presented at the **Malaysian Water Association’s Water Malaysia 2011, 5-7 April 2011, Putra World Trade Centre, Kuala Lumpur.**
- (2012) “Awareness of Environmental Issues & Reality.” Keynote Paper presented at the **International Environment and Health Conference 2012, 6-7 June 2012, Vistana Hotel, Penang, Malaysia.**
- (2013) Water - Issues and Conservation in the Asian Region: Benefits & Challenges in the School of Humanities Universiti Sains Malaysia Water Saving Project. Invited Keynote Paper presented at the **International Sustainable Campus Network (ISCN) 2013, Working Group 1 Program as of June 12, 2013, National University of Singapore, Buildings and their sustainability impacts.**
- (2016) Issues and challenges for water resources and hazards management in Malaysia: the way forward. Keynote Paper presented at the **Asia Pacific Chemical, Biological and Environmental Engineering Society (APCBEES) International Conference, 12-13 January, Hottel Royal, Penang, Malaysia.**
- (2016) Effective River Management: The Key for Maintaining Good Water Quality and Sustainable Water Resources in Malaysia. Keynote Paper presented at the **Asia Pacific Chemical, Biological and Environmental Engineering Society (APCBEES) Kuala Lumpur International Conference, 25-26 July 2016, Hotel Royal, Kuala Lumpur.**
- (2016) Sustainable River Management for Healthy Tourism and Healthy Environment: Engaging All Stakeholders. Keynote Paper presented (Presented by Md. Monir Hussein) at the **International Conference on Sustainable River Management for Healthy Tourism & Healthy Environment, 18-19 November 2016, Coxsbazar, Bangladesh.**
- (2017) Urbanization, climate change and cities: challenges and opportunities for sustainable development. Keynote Paper presented at the **2017 Asia Pacific Chemical, Biological and Environmental Engineering Society International Conference, 8-10 January, Universiti Sains Malaysia, Penang.**
- (2017) Keynote Paper presented at the **2017 Hong Kong Chemical, Biological & Environmental Engineering Society (HKCBEES) Beijing Conference, 23-25 May 2017, Jinma Hotel, Beijing.**

- (2018) Keynote Speaker, COMBINING ENGINEERING MEASURES WITH SOCIAL RESILIENCE IN COPING WITH URBAN FLOODS IN MALAYSIA, Phuket, HKCBEEES, 2018 8th International Conference on Future Environment and Energy (ICFEE 2018) (International).
- (2018) Keynote Speaker, Enhancing Biomass Energy Production Towards Stabilising Climate: Case Study of Malaysia, ICAER 2018 Hong Kong, Hong Kong Chemical, Biological and Environmental Engineering Society , International Conference on Advances in Environmental Research, Hong Kong, 28-30 May 2018 (International).
- (2018) Keynote Speaker, Combining Engineering Measures With Social Resilience in Coping With Urban Floods in Malaysia, 2018 8th International Conference on Future Environment and Energy, Phuket, 10-12 January 2018, Hong Kong Chemical, Biological and Environmental Engineering Society , 2018 8th Int. Conf. on Future Environment and Energy, Phuket, 10-12 Jan 2018 (International).
- Chan, N.W. (2018) Keynote Speaker, Water Education: Are We Ignorant?, Dewan Seri Melati, Putrajaya, Malaysian Water Partnership, 4th MALAYSIA WATER RESOURCES MANAGEMENT FORUM 2018 25-26 September 2018 SHARING WATER (National).
- (2018) Panelist in 1st International Youth Forum on Water Engineering Management (InYouF 2018) , 2018 (International)
- (2019) Keynote Speaker, Sustainable urban drainage as a viable measure of coping with heat and floods due to climate change, OSAKA, JAPAN, HONG KONG CHEMICAL, BIOLOGICAL & ENVIRONMENTAL ENGINEERING SOCIETY, 2019 9TH INTERNATIONAL CONFERENCE ON FUTURE ENVIRONMENT AND ENERGY (International)
- (2019) Keynote Speaker, Holistic Urban Water Management Integrating Rainfall Harvesting, Water Conservation and Sustainable Drainage Systems in Universiti Sains Malaysia , NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE, HONG KONG CHEMICAL, BIOLOGICAL & ENVIRONMENTAL ENGINEERING SOCIETY, 2019 5th International Conference on Advances in Environment Research (ICAER 2019) (International).
- (2019) Keynote Speaker, INTERNATIONAL CONFERENCE ON ADVANCES IN ENVIRONMENTAL RESEARCH, NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE, HONG KONG CHEMICAL, BIOLOGICAL & ENVIRONMENTAL ENGINEERING SOCIETY, 2019 5th International Conference on Advances in Environment Research (ICAER 2019) (International).
- (2022) Keynote Speaker, INTERNATIONAL CONFERENCE ON ADVANCES IN ENVIRONMENTAL RESEARCH, NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE, HONG KONG CHEMICAL, BIOLOGICAL & ENVIRONMENTAL ENGINEERING SOCIETY, 22-24 April 2022 8<sup>th</sup> International Conference on Advances in Environment Research (ICAER 2022) (International).
- (2022) Keynote Speaker, Internatinal Conference on Society, Space & Environment (ICSSE) 2022, 16 Nov 2022, School of Humanities USM. Delivered the paper titled "Holistic Management of Urban Hazards & Disasters Via Enhancing Resilience in Cities & Communities"



## ACADEMIC/PROF. SERVICES

### Evaluation

#### EVALUATION OF CENTRES/SCHOOLS/CANDIDATES

##### Programme/Centres/Schools/etc:

1. Evaluated the Environmental Management Programme, Postgraduate Centre, Universiti Kebangsaan Malaysia, 2005 as Externer Evaluator.
2. Evaluated the Environmental Management Programme, Universiti Tun Hussein Onn Malaysia (UTHM), 2007 as Panelist.

##### Externer Assessor of the Post of Professor for the following candidates:

1. Associate Profesor Dr Shaharuddin Ahmad, Universiti Kebangsaan Malaysia, 2005.
2. Associate Profesor Dr Fredolin Tangang, Universiti Kebangsaan Malaysia, 2007.
3. Associate Profesor Dr. Ramzah Dambul, Uiversiti Malaysia Sabah 2018
4. Associate Profesor Dr Kadir Arifin, Universiti Kebangsaan Malaysia, 2018
5. Associate Profesor Dr Sharifah Zarina Syed Zakaria, Universiti Kebangsaan Malaysia, 2018
- 6 Associate Profesor Dr Sharifah Zarina Syed Zakaria, Universiti Kebangsaan Malaysia, 2019
7. Associate Professor Ts. Dr. Lee Khai Ern, Universiti Kebangsaan Malaysia, 2022

##### Referee Assessor of the Post of Professor for the following candidates:

1. Professor Dr Muhammad Barzani Gasi, Universiti Kebangsaan Malaysia 2011.
2. Professor Dr Mohd. Ekhwan Toriman, Universiti Kebangsaan Malaysia 2011.

##### Externer Assessor of the Post of Associate Professor for the following candidates:

1. Dr Noorazuan Md Hashim, Universiti Kebangsaan Malaysia, 2008.
2. Dr Sharifah Mastura, Universiti Kebangsaan Malaysia, 2008.
3. Dr Kadir Ariffin, Universiti Kebangsaan Malaysia, 2010.
4. Dr Suhaily Yusri Che Ngah, Universiti Pendidikan Sultan Idris, 2010.
5. Dr Er Ah Choy, Universiti Kebangsaan Malaysia, 2011.
- 6 Dr Baharudin Bin Hj Md Arus, Universiti Sains Malaysia, 2014
- 7 Dr Haryati Binti Shafii, Universiti Tun Hussein Onn, 2014
8. Dr Nasir Bin Nayan, Universiti Pendidikan Sultan Idris, 2014
- 9 Dr Sharifah Munirah Al-latas, Universiti Kebangsaan Malaysia, 2014
- 10 Dr Tuan Pah Rokiah Syed Hussein, Universiti Utara Malaysia, 2014
- 11 Dr Mohd Hairy Bin Ibrahim, Universiti Pendidikan Sultan Idris, 2017
- 12 Dr Sulzakimin Bin Mohamed, Universiti Tun Hussein Onn, 2018
- 13 Dr Majed Mahmoud Faris Ibrahim, Al-Bayt University, Jordan 2019
14. Dr Wong Yee Shian, Associate Professor in Universiti Malaysia Perlis, 2019.

##### Evaluator/Examiner for the following PhD Candidates:

- Ahmed Suleiman Mustafa (A 5786) Incorporating Local Level Market Behaviour into Early Warning and Food Information Systems: The Case of the Semi Arid Zone in Sudan. PhD (Universiti Kebangsaan Malaysia) (External Examiner, National) 2000

- Ahmed Hamed Ibrahim, PhD (Universiti Kebangsaan Malaysia) (External Examiner, National) 2002
- Mohamed Elnour Yassen Ahmed (P24089) Aspects of Climate Change, Air Quality Degradation and Acid (Universiti Kebangsaan Malaysia) (External Examiner, National) 2004
- Zullyadini A Rahaman (Imbangan Endapan Dan Pemandapan Di Empangan Timah Tasoh, Perlis, Malaysia) (Universiti Sains Malaysia) (Internal Examiner, National) 2004
- Abdul Hamid (GS10531) Characterisation of Stormwater Quality From The Sungai Lui Catchment) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2005
- Liew Ju Neng (P22053) Variasi Antara Tahunan Hujan Di Malaysia – Modulasi ENSO Dan Teknik-Teknik Pemodelan) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2006
- Haryati binti Shafii (P17972) Tempat Tinggal Dan Kualiti Hidup Masyarakat Bandar Di Kajang, Selangor) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2006
- Rahmah Elfithri (P18867) Pembuatan Keputusan Kolaboratif Dalam Konteks Pengurusan Sumber Air Bersepadu) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2006
- Sanar Kumaran A/L Kolandai (GS11988) Hydrometeorology of Tropical Montane Rainforests of Gunung Brinchang, Pahang Darul Makmur) (Universiti Putra Malaysia) (External Examiner, National) 2008
- Seow Ta Wee (P17886) Pengurusan Sisa Pepejal di Daerah Batu Pahat, Johor: Ke Arah Pembentukan Bandar Berdayahuni) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2008
- Tuan Pah Rokiah Syed Hussain (P35013) Gangguan Manusai Dan Pengaruhnya Terhadap Kejadian Banjir Di Lembangan Saliran Kelantan) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2010
- Dessy Yoswati, (Universiti Kebangsaan Malaysia) (External Examiner, National) 2011
- Nik Nasriah binti Che Abdul Rahman (Pengaruh keterdapatan air terhadap gerakan jisim: kajian tanah runtuh di mukim Hulu Kelang, Selangor, Malaysia) (Universiti Malaya) (External Examiner, National) 2011
- Thanapackiam a/p Periasamy (Slope failure hazards: a spatial and temporal study of the Klang Valley Region, Peninsular Malaysia) (Universiti Malaya) (External Examiner, National) 2011
- Nasir bin Nayan (P44971) Impak Pembangunan Guna Tanah Terhadap Zon Pinggir Pantai Di Negeri Perak) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2012
- Abd. Wahid bin Rasib, (Universiti Teknologi Malaysia) (External Examiner, National) 2012
- Dr. Sumitra Sithamparam (Vulnerability Analysis of Flood Risk and Disaster Management in Freetown, Sierra Leone) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2012
- Afolabi Oluwafemi Alabi (Tajuk: Dynamic Simulation Modelling For Water quality Management in Lake Chini) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2012
- Maged Ahmed Abdullah Alward (Tajuk: Assessment of Water Resources and Its Management in Wadi Siham Basin, Yemen) (Universiti Sains Malaysia) (Internal Examiner, University) 2012
- Hamidi Bin Ismail (Tajuk: Sistem Pengurusan Alam Sekitar Bandar dalam Majlis Perbandaran Kajang dan Majlis Perbandaran Seremban) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2013
- Hanifah Binti Mahat (Title: Kesedaran dan Komitmen Pendidikan Pembangunan Lestari Dalam Komuniti Sekolah Menerusi Program Sekolah Lestari) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2013
- Zarrantaj Aminrad (Title: The Integration of Environmental Awareness, Knowledge and Attitude in Formal Education Regarding Secondary School Students: A Case Study in Kajang, Selangor) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2013
- Sulzakimin Bin Hj. Mohamed (Title: Malaysian Local Government Towards Sustainable Development: Knowledge Transfer Practices Framework in Planning Approval”) (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2014
- Rosmini Maru (Title: Kuantifikasi Intensiti Pulau Haba Bandar (IPHB): Kajian Kes di Bandaraya Jakarta) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2014

- Mohd Khairul Amri Kamaruddin (Title: Siasatan Perubahan Pelan Sungai Dan Bentuk Geometrik Dasar Sungai Dalam Penentuan Pengurusan Sungai Di Sungai Pahang, Malaysia) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2014
- Mohd Hairy Bin Ibrahim (Title: Perubahan Atmosfera Bandar dan Kesannya Di Bandar Raya Ipoh, Perak) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2014
- Tan Mou Leong (Title: Evaluation of Uncertainties on Modelling of Streamflow Effects by Climate Change) (Universiti Teknologi Malaysia) (External Examiner, National) 2015
- Ali Nikahd Ghosiraie (Title: Calibration of Ground-Based Radar For Rainfall Measurement) (Universiti Teknologi Malaysia) (External Examiner, National) 2015
- Nazi Avani (Title: The Distribution and Strength of Vegetation Roots in Relation to Soil Reinforcement along East-West Highway, Malaysia) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Abdul-Wahab Shuaibu (Title: A Structural Equation Modelling Approach to Factors Influencing Adoption of Urban Self-Supply Water System in Yola, Nigeria”) (Universiti Teknologi Malaysia) (External Examiner, National) 2017
- Md Zakir Md Salleh (Penggunaan Baja Organoseep Terhadap Prestasi Pertumbuhan, Produktiviti Dan Pengurusan Penanaman Pokok Tomato (*Solanum lycopersicum*) (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2017
- Zitty Sarah Ismail (Pembentukan Budaya Keselamatan Universiti Penyelidikan di Malaysia) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2017
- Nik Mohd Farhan (Potensi Spesies *Syzygium papilose*, *Ploiarium alternifolium melchior* dan *Cratoxylon arborescens* dalam proses ka walan hakisan cerun) (Universiti Pendidikan Sultan Idris) (External Examiner, National) 2017
- Mazlina Bt Alang Othman (Determination of Water Quality Volume in Stormwater Facilities) (Universiti Sains Malaysia) (Internal Examiner, University) 2017
- Madya Herawati Binti Ahmad (Penyertaan Pihak Awam Terhadap Prosedur EIA Terperinci Berhubung Projek Petrokimia Di Pengerang Johor) (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2017
- Mohd Reduan Bin Buyung (Membangunkan Garis Panduan Kemudahan Bagi Kolej Kediaman Universiti Lestari di Malaysia) (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2017
- Mabroka Mohamed Daw (Spatial .Analysis of the determinants of urban residential water demand in Libya) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2017
- Minhaz Farid Ahmed (Risk Based Assessment and Management of Drinking Water in Langat River Basin, Malaysia) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2018
- Gajikoh Mohamed Sellu (Vulnerability Analysis of Flood Risk and Disaster Management in Freetown, Sierra Leone: A Community Flood Disaster Management Approach) (International Islamic Universiti Malaysia) (External Examiner, National) 2018
- Mani Rajan A/L Ellapan (Sikap, Inisiatif dan Regulasi Kendiri Pentadbir terhadap Pelaksanaan Pendidikan Pembangunan Lestari di Institut Pendidikan Guru Malaysia) (Universiti Pendidikan Sultan Idris) (External Examiner, National) 2018
- Koh Liew See (Pemodelan Pengurusan Bekalan Air Domestik semasa Bencana Banjir di Malaysia: Kajian Kes Kuala Krai, Kelantan) (Universiti Pendidikan Sultan Idris) (External Examiner, National) 2018
- Abubakar Umar Gabrain (Standard Operating Procedure for Rescue Operation in Man-made Disaster Management) (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2018
- Mohd Hilmi B P Ramli (Hasilan Air dan Pengurusan Sumber Air Kawasan Tadahan di Kelantan dengan Menggunakan Teknik Remote Sensing) (Universiti Teknologi Malaysia) (External Examiner, National) 2018
- Muhammad Adzran Bin Che Mustapha (Perilaku berniat pihak berkepentingan utama di Lembah Klang terhadap genetik perubatan dan faktor peramalnya) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2019

- Shawal Bin Sahid Hamid @ Hussain (Pelaksanaan Pengurusan Keselamatan dan Kesihatan Pekerjaan di Sekolah Semenanjung Malaysia) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2019
- Mohamad Syafiqi Hasim (Flood Vulnerability and Flood Risk: Evidence from Flood-hit Households in the east coast region of Malaysia) (Universiti Utara Malaysia) (External Examiner, National) 2019
- Sharif Shofirun Ali, (Universiti Kebangsaan Malaysia) (External Examiner, National) 2019
- Mohd Azhar Bin Mohamed Ali (Penglibatan Awam Dalam Rancangan Tempatan Pihak Berkuasa Tempatan Di Selangor) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2019
- Amirul Shazli Bin Sahimi (Pengaruh Kewangan Dalam Pengurusan Keselamatan Dan Kesihatan Pekerjaan Dalam PKS Di Malaysia) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2020
- Ng Lee Shan (Development of sustainable 3R-based construction waste management framework for Penang) (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2021
- Ir Wan Mohammad Zaidi Bin Wan Isa (P94244)(Pengurusan risiko kemalangan jabatan bomba dan penyelamat malaysia dalam operasi pemadaman kebakaran di Lembah Klang) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2021
- Chandan Raj (Roll No. 165CE13; Enrolment No. 160898) (Effects of Farakka Barrage on Morphological Characteristics of the Ganga River) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2021
- Vishal Singh Rawat (Roll No. 185CE33) (Experimental Study on Hydraulic Properties for flows over Inclined Block Carpets) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2022
- Mohamad Ihsan Bin Muhamad Ismail (P20162001695)(Kesan Partikel Terampai (PM10) Kepada Parameter Meteorologi Dan Simptom Masalah Pernafasan Di Ipoh, Perak) (Universiti Pendidikan Sultan Idris) (External Examiner, National) 2022
- Supriya Kumari (Roll Number 185AR02)(Critical Evaluation of Residential Satisfaction in Low-Income Group Public Housing of India: A Case of Lucknow City) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2022
- Aadil Towheed (Roll Number 175CE01) (Monitoring the dynamic behavior of soil loss due to climate change in the Kosi river basin, Bihar) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2022
- Shashi Shankar Ojha (Roll No. 15CE251) (Hydrogeological and Meteorological Data Analysis of the Punpun River Basin in India) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2023
- Shashi Ranjan (Roll No. 185CE26) (Assessing long-term hydrological response of Punpun river basin) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2023
- Wen Gangming (Student ID: 202009060039) (The Determinants of International Evaluation Index System to Evaluate the Internationalization of Degree Programs of Guangdong Local Universities) (City University Malaysia) (External Examiner, National) 2023
- Cui Lei (Student ID: 202107010017)(The Influence of Individual Temperament and Blended Learning Mode on Wisdom Education Among Undergraduates in Jinan, Shandong Province, China) (City University Malaysia) (External Examiner, National) 2023
- Zheng Luyan (Student ID: 20210106046)(Examining the effects of "SPOC and flipped classroom" based blended teaching strategy on first-year english-major students' achievements and learning satisfaction) (City University Malaysia) (External Examiner, National) 2023
- Kartik Srivastava (Roll No. 205AR001) Critical analysis of side frictional impact on urban road network: A case study of Varanasi (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2023

- Amar Nath Gupta (Roll No 17CE004) “Evaluation of water quality and identification of associated contaminants of uranium using bayesian correlations and machine learning algorithm” (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2024
- Zhai Xiuzhi (Student ID: 202109060073)( The influence of multimodal teaching and learning for vocabulary acquisition in primary school English teaching in Beijing, China) (City University Malaysia) (External Examiner, National) 2024
- Kowkuntla Rama Krishna Reddy 18CEO06) (Numerical modelling of soil wetting pattern in drip irrigation) (National Institute of Technology Patna Bihar-800005, India) (External Examiner, International) 2024
- Fei Zhong (202205060035) (The Relationship between Educational Assortative Mating and Fertility: Evidence from Zhejiang Province) (City University Malaysia) (External Examiner, National) 2024
- Huang Chaoping (202205010002) (The effect of teachers' digital literacy improvement and performance on blended learning among students in vocational colleges , Guangdong Province) (City University Malaysia) (External Examiner, National) 2024

**Evaluator/Examiner for the following Masters Candidates:**

- Pat Sears (Major Issues and Concerns of the Mekong River, An International River) MSc (The University of Memphis, USA) (External Examiner, International) 2001
- Sahak Bin Ahmadun (A 7334) Kesan Pembangunan Di Kawasan Majlis Perbandaran Seremban (MPS) Negeri Sembilan Terhadap Kualiti Air Sungai Linggi) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2003
- Kamarul bin Ismail (Integrasi Sistem maklumat Geografi (GIS) dan Rangkaian Saraf Buatan (ANN) bagi Pemodelan Indeks Kualiti Air Sungai: Kajian Kes di Lembangan Sungai Pinang, Pulau Pinang) (Internal Examiner, University) 2003
- Cheng Ling Liang (P21074) Ayunan Intra Musiman Dan Hubungkaitnya Dengan Anomali Kerpasan Di Malaysia. (Universiti Kebangsaan Malaysia) (External Examiner, National) 2004
- Jamalia Jenni (Krisis air di Lembah Kelang tahun 1998: satu analisis kritikal) (University of Malaya) (External Examiner, National) 2004
- Ahmed Hamood Hamed Al-Qasmi ((P32690) Environmental and Economic Benefits of Using Domestic Wastewater for Irrigating Home Gardens In The Sultanate Of Oman) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2006
- Tan Choon Chek ((P30402) bertajuk “Pencirian Sifat Fiziko-Kimia Lembangan Tasik Chini, Pahang”) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2007
- Faidrullah Bin Sheik Naimullah (Pengesahan Kawasan Berisiko Mengalami Kebocoran Paip Menggunakan Kaedah Remote Sensing dan Sistem Maklumat Geografi) (Universiti Teknologi Malaysia) (External Examiner, National) 2008
- Hamdan Bin Omar (Analysis of Slope Stability Using Remote Sensing and GIS” pada 7 Ogos 2009 Yang Tidak Dibayar) (Universiti Teknologi Malaysia) (External Examiner, National) 2009
- Mukhlisah Binti Hanafi @Mohd Ghani (Universiti Sains Malaysia) (Internal Examiner, University) 2009
- Md. Abdullah Abraham Hossain ((P43951) bertajuk Implementation of Integrated River Basin Management Under Local Context: A Case of Langat River Basin) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2010
- Nor Anisah Hj. Kadri ((P37120) bertajuk “Kajian Terhadap Impak Sosial Dan Persekitaran Dalam Pengurusan Dan Penggunaan Pestisid Di Ladang Kelapa Sawit Di Tawau, Sabah) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2011

- Mohd Rizaludin Bin Mahmud (Run-off modeling and mapping using satellite data) (Universiti Teknologi Malaysia) (External Examiner, National) 2011
- Mohammad Ghazi bin Hj. Ismail (Penglibatan masyarakat awam di Malaysia dalam isu-isu berkaitan persekitaran dengan rujukan kepada Negeri Kelantan) (Universiti Sains Malaysia) (Internal Examiner, University) 2011
- Syarilla Binti Hj. Mohamas Suhaili, (Universiti Sains Malaysia) (Internal Examiner, University) 2011
- Pan Ia Lun ((P54306) Ciri-ciri hujan dan bencana banjir di lembangan Sg Pahang) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2011
- Shalini A/P Sanmargaraja (Tajuk : Penyediaan Fasiliti Rumah Orang Tua : Kajian Kes Di Bandaraya Ipoh Dan Johor Bharu (Universiti Tun Hussein Onn Malaysia) (External Examiner, National) 2012
- Rashidah Binti Ahmad (Tajuk: Penggunaan dan Penjimatan Tenaga Elektrik bagi Pengguna Domestik: Kajian Kes Taman Seri Empayar Presint 5, Putrajaya) (Universiti Sains Malaysia) (Internal Examiner, University) 2012
- Tam Tze Huey (Tajuk: Flood Risk Mapping Using Geospatial Technologies and Hydrodynamic Modeling) (Universiti Teknologi Malaysia) (External Examiner, National) 2013
- Wan Nur' Ashiqin Wan Mohamad (Tajuk: "Profil Pendidik Amalan Penjimatan Air di Institusi Pengajian Tinggi") (Universiti Kebangsaan Malaysia) (External Examiner, National) 2013
- Rafiqah Binti Mat (Pengekalan dan halangan pertanian bandar di bandar Kulim, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2014
- Solihah Bt Hj Mustafa (Penglibatan komuniti dalam pemuliharaan george town sebagai tapak warisan dunia UNESCO) (Universiti Sains Malaysia) (Internal Examiner, University) 2014
- Nurhamizah Binti Shahrudin (M20122002061) bertajuk Pengaruh Guna Tanah Terhadap Kualiti Air Tasik Rekreasi di Taman Tasik Taiping, Perak) (Universiti Pendidikan Sultan Idris) (External Examiner, National) 2014
- Nor Robiatul Adawiyah Binti Shamsuri (Penglibatan Komuniti dalam Pengurusan Risiko Bencana di Bandar Bukit Mertajam, Pulau Pinang) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Nurul Fadzliana Binti Abu Hassan (Manfaat perkhidmatan ekosistem budaya dari Taman Jubli Perak, Sungai Petani, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Izza Shafini Binti Zainal Abidin (Pengetahuan Komuniti Dalam Pengurangan Risiko Banjir Di Alor Setar, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2016
- Mohammad Ariffudin Bin Sah Harudin (Pengurusan pencemaran air larian banjir di kawasan tadahan Sungai Pinang, Pulau Pinang)
- (Universiti Sains Malaysia) (Internal Examiner, University) 2016
- Nor Atika Binti Abdullah Shahimi (gangguan persekitaran fizikal di laluan pejalan kaki terhadap aktiviti pelancongan di bandar warisan George Town, Pulau Pinang) (Universiti Sains Malaysia) (Internal Examiner, University) 2017
- Nor Robiatul Adawiyah Binti Shamsuri (Title: Penglibatan komuniti dalam pengurusan risiko bencana di bandar Bukit Mertajam, Pulau Pinang) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Izza Shafini Binti Zainal Abidin (Title: Pengetahuan Komuniti dalam Pengurangan Risiko Banjir di Alor Setar, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Satesh a/l Balachanthar (Development of a nutritionally-balanced, cost-effective, socially-acceptable and sustainable emergency food aid design for disaster relief and preparedness (Universiti Sains Malaysia) (Internal Examiner, University) 2019
- Linges Navamney (Public Perception on water pricing of local communities in George Town, Penang) (Universiti Sains Malaysia) (Internal Examiner, University) 2019

- Mohamad Muhyiddin Bin Hassan ((P88779) bertajuk Penyelarasan Program Badan Bukan Kerajaan (NGO) Ke Arah Mencapai Matlamat Pembangunan Lestari (SDGs): Kajian Kes Global Environment Center (GEC)) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2019
- Nurhamizah Binti Shahrudin (M20122002061) bertajuk Pengaruh Guna Tanah Terhadap Kualiti Air Tasik Rekreasi di Taman Tasik Taiping, Perak) (Universiti Pendidikan Sultan Idris) (External Examiner, National) 2014
- Nor Robiatul Adawiyah Binti Shamsuri (Penglibatan Komuniti dalam Pengurusan Risiko Bencana di Bandar Bukit Mertajam, Pulau Pinang) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Nurul Fadzliana Binti Abu Hassan (Manfaat perkhidmatan ekosistem budaya dari Taman Jubli Perak, Sungai Petani, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Izza Shafini Binti Zainal Abidin (Pengetahuan Komuniti Dalam Pengurangan Risiko Banjir Di Alor Setar, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2016
- Mohammad Ariffudin Bin Sah Harudin (Pengurusan pencemaran air larian banjir di kawasan tadahan Sungai Pinang, Pulau Pinang)
- (Universiti Sains Malaysia) (Internal Examiner, University) 2016
- Nor Atika Binti Abdullah Shahimi (gangguan persekitaran fizikal di laluan pejalan kaki terhadap aktiviti pelancongan di bandar w arisan George Town, Pulau Pinang) (Universiti Sains Malaysia) (Internal Examiner, University) 2017
- Nor Robiatul Adawiyah Binti Shamsuri (Title: Penglibatan komuniti dalam pengurusan risiko bencana di bandar Bukit Mertajam, Pulau Pinang) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Izza Shafini Binti Zainal Abidin (Title: Pengetahuan Komuniti dalam Pengurangan Risiko Banjir di Alor Setar, Kedah) (Universiti Sains Malaysia) (Internal Examiner, University) 2015
- Satesh a/l Balachanthar (Development of a nutritionally-balanced, cost -effective, socially-acceptable and sustainable emergency food aid design for disaster relief and preparedness (Universiti Sains Malaysia) (Internal Examiner, University) 2019
- Linges Navamney (Public Perception on water pricing of local communities in George Town, Penang) (Universiti Sains Malaysia) (Internal Examiner, University) 2019
- Mohamad Muhyiddin Bin Hassan ((P88779) bertajuk Penyelarasan Program Badan Bukan Kerajaan (NGO) Ke Arah Mencapai Matlamat Pembangunan Lestari (SDGs): Kajian Kes Global Environment Center (GEC)) (Universiti Kebangsaan Malaysia) (External Examiner, National) 2019
- Jacquoelyn a/k Paska (Evaluation of satellite precipitation products in extreme rainfall events over Peninsular Malaysia) (Universiti Teknologi Malaysia) (External Examiner, National) 2019
- Mohammad Nasir, Muhammad Azamuddeen (ID: 18817536) (Applicability of Low-Cost Cameras for Monitoring Suspended Sediment Through Close-Range Remote Sensing) (University of Nottingham Malaysia) (External Examiner, National) 2021
- Zibeon Bin Luhaim (P-HM0005/20(R) (Analisis Ruang-Masa Kemarau Hidro-meteorologi di Lembangan Sungai Muda, Malaysia) (Universiti Sains Malaysia) (Internal Examiner, University) 2021
- Kee Siau Fen (Community awareness and adaptation behaviour to floods in the East Coast of Peninsular Malaysia) (Universiti Sains Malaysia) (Internal Examiner, University) 2021
- Zhang Yining (Impact of High-Speed Rails in Xiamen City to Land Use: Land Use Trends and Citizen Perspective) (Universiti Sains Malaysia) (Internal Examiner, University) 2022

### Contribution to external organisation

- (2016) Member of Panel, FRGS Grant Evaluation Panel, Ministry of Education Malaysia (2014-2016) (Expert Evaluator)
- (2015) Expert Slope Stability Advisor to Penang State Government in the Technical Advisory Committee on Slope Development, Slope Stability & Slope Management Strategies, Penang State Government, December 2013-December 2015 (Expert Slope Stability Advisor)
- (2014) Extern Assessor, Panel for Promotion of Academic Staff to Professor & Associate Professor, University of Malaya, Faculty of Arts 50603 Kuala Lumpur (18 April 2011-30 April 2014) (Expert Assessor)
- (2010) Panel Member & Advisor, Review of Geography & Environment Elements for Curriculum of Year 2 Level, Curriculum Development Centre, Ministry of Education Malaysia, Level 4-8, Block E9, Government Complex Parcel E, Federal Government Administrative Centre, 62604 PUTRAJAYA (17 Feb 2010) (Expert Panel Advisor)
- (2007) Expert Advisor, Penang State Committee on Malaysia Environmental Week (Penang State Level), May- August 2007, Penang State, Organised by Department of Environment Malaysia and Penang State Government (Department of Tourism Development & Environment) (May-August 2007) (Expert Advisor)
- (2005) External Academic Assessor, Environmental Management Programme of Centre for Postgraduate Studies, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor (April 2005) (External Academic Assessor)
- (2005) Expert Team Leader, Examination of Higher School Certificate Malaysia (STPM) Geography Paper 942/1 Geography of the Physical Environment 2005, Malaysian Examination Council, Bangunan MPM, Persiaran 1, Bandar Baru Selayang, 68100 Batu Caves, Selangor (2005) (Expert Team Leader)
- (2005) Expert Panel Advisor, Panel for the Assessment of Higher School Certificate Malaysia (STPM), Geography Paper 942/1 Physical Environmental Geography 2005, Malaysian Examination Council, Bangunan MPM, Persiaran 1, Bandar Baru Selayang, 68100 Batu Caves, Selangor (January 2005) (Expert Panel Advisor)
- (2005) Expert Environmental Management Advisor to Penang State Environmental Council, Secretariat at Unit Perancang Ekonomi Negeri (UPEN), Penang State, Level 26, KOMTAR, 10503 Penang (January 2009 – Present) (Expert Environmental Management Advisor)
- (2004) Expert Geography Syllabus Advisor, Committee for the Re-Evaluation of Higher School Certificate Malaysia (STPM) Geography Syllabus Malaysian Examination Council, Bangunan MPM, Persiaran 1, Bandar Baru Selayang, 68100 Batu Caves, Selangor (Nov 2004 – Present) (Expert Geography Syllabus Advisor)
- (1999) Member of Panel of Judges for MWA Awards 2024, Malaysian Water Association (MWA), C/O Office of Director of Water Supplies, Jabatan Kerja Raya Malaysia, Jalan Sultan Salahuddin, 50582 Kuala Lumpur (Judge)
- (1997) Soil Erosion, Water Resources and Flood Expert Advisor in the Penang State Chief Minister's Panel of EIA Evaluation Committee. This committee reviews, evaluates and assesses the credibility of EIA reports submitted for environmentally sensitive development projects (1996 - 1997) (Soil Erosion, Water Resources and Flood Expert Advisor)
- (1991) Expert Geography Terminology Advisor for the Dewan Bahasa dan Pustaka Malaysia on the formalising of Bahasa Malaysia Terminology for Universities. Dewan Bahasa dan Pustaka Malaysia, Kuala Lumpur. The length of the consultancy was from 1st January 1987 to 31st August 1991 (Expert Geography Terminology Advisor)

### Media appearance

- (2024) BFM Podcast on Top 5 At 5: Higher Water Bills, Better Water Resilience. 3. Public outrage to Penang's water tariff hike. Professor Dato' Dr Chan Ngai Weng, Honorary Professor of Environmental Management at USM shares his thoughts with us (<https://www.bfm.my/podcast/evening-edition/evening-edition/top-5-at-5-higher-water-bills-better-water-resilience>) (Producer Alia Zefri, Sudais Ferhard)



- (2024) TV Recording of the work of Chan Ngai Weng & Water Watch Penang by Astro AEC HD | The Guardians / The Guardians 7 [638295228129722157], Guardians WWP-CNW Video Part 1 ([https://www.youtube.com/watch?v=1uTW\\_PVJXzE](https://www.youtube.com/watch?v=1uTW_PVJXzE)) (Producer The Guardians)
- (2023) Being A Conscious Water Consumer: What Penang Can Teach Us. Interview with Professor Dr Chan Ngai Weng, President, Water Watch Penang (Evening [Inside Story](#) Edition . . 24 May 2023 . 06:00 pm . 57 mins listen) (<https://www.bfm.my/podcast/evening-edition/inside-story/being-a-conscious-water-consumer-what-penang-can-teach-us>)
- (Producer - Sharad Kuttan)
- (2022) DISTED College Earth Day 2022 Panel Discussion - Invest in Our Planet. Earth Day 2022 Panel Discussion - Invest in Our Planet DISTED College, Penang, MALAYSIA CHAIR: Prof. Dr. Vikneswaran Nair President, DISTED College, Penang, Adjunct Professor, Wawasan Open University PANELIST Dr. Marzieh Fallah, Ecotourism Consultant, Eco-Coach & Tours, Penang Prof. Dr. Chan Ngai Weng, President, Water Watch Penang, Professor, Universiti Sains Malaysia Ms. Ashawani Chinathamby, Senior Officer, Environmental Education & Outreach (EEO), Penang Green Council (<https://www.youtube.com/watch?v=sCabgdTotXI>)
- (2021) Politics | Kedah - Penang: Weaponising water conflict? 655 views Streamed live on Apr 12, 2021. Tonight on #ConsiderThis Melisa Idris & Sharaad Kuttan speak to Prof Dr Chan Ngai Weng, water quality expert Dr Maketab Mohamed & AWER's S. Piarpakaran on how to break the impasse (<https://www.youtube.com/watch?v=F7XA3qS5o0I>)
- (2020) Master Class on River As A Resource and Management. Online/Media Course by Prof. Dr. Ngai Weng Chan I RiverFlix. Master Class on River As A Resource and Management | Honourable Resource Person : Dr. Chan Ngai Weng , Professor, University Sains Malaysia | President, Penang Water Watch Organized By: Bangladesh River Foundation and Halda River Research Laboratory Course Advisor: Dr. Md. Manzoorul Kibria Professor, Zoology Department, University of Chittagong & Co-ordinator, Halda River Research Laboratory. Course Planner : Md. Monir Hossain (<https://www.youtube.com/watch?v=LxQnirOXi1Q>)
- (2019) BFM Podcast on Earth Day 2019 Special: Make [the Greater Ulu Muda Forest Complex](#) a State Park. Interview with Professor Dr Chan Ngai Weng, President, Water Watch Penang (the-bigger-picture . . 22 Apr 2019 . 03:00 pm . 27 mins listen) (<https://www.bfm.my/podcast/the-bigger-picture/earth-matters/em-make-the-greater-ulu-muda-forest-complex-state-park>) (Producer Juliet Jacobs)
- (2002) TV Recording for TV3 under the programme "Malaysia Kini" – By invitation from TV3, 10 January 2002. Discussion topic "Flood management in Malaysia: Major Issues and Solutions". Organised by TV3. This programme is aired on TV3 live on 10 January 2002, from 8.00-9.00 am, National (Interview Broadcast)
- (2001) Invited TV Recording for Cable Channel 18 WYPL, 14 June 2001. Topic of Discussion "Water Conservation: Major Issues and How the Public Can Help." Organized by Sierra Club, Tennessee Chapter. This Programme is aired over Cable Channel 18 under the programme "The Nature of Conservation" on Mondays and Fridays (International TV Broadcast Interview)

## PhD

- (2024) Stakeholders' Participation in Ecotourism Management: A Case Study of the Ulu Muda Forest Reserve, Ong Ke Shin (Universiti Sains Malaysia) (Main Supervisor from 2019-2022. Subsequently relegated to Co-Supervisor due to Retirement in 2022).
- (2022) Assessing sustainability index of water resources system for Lombok River Basin, Anggara Wiyono Wit Saputra (Universiti Sains Malaysia) (Co-Supervisor)
- (2021) Climate change impacts on surface water management in the northern province of Sri Lanka, Piratheeparajah Nagamuthu (Universiti Sains Malaysia) (Main Supervisor from 2019-2021. Subsequently relegated to Co-Supervisor due to Retirement in 2022)
- (2021) Stakeholders Participation Towards Sustainable River Basin Management: A Case Study of Muda River Basin, Sim Lay Mei (Universiti Sains Malaysia) (Main Supervisor from 2019-2021. Subsequently relegated to Co-Supervisor due to Retirement in 2022)
- (2021) Stable Channel Analysis with Sediment Transport for Rivers In Malaysia: A Case Study of the Muda, Langat and Kurau Rivers, Mohd Afiq Bin Harun (Universiti Sains Malaysia) (Co-Supervisor)
- (2020) Vulnerability and Resilience of Local Communities in Coping with Flood Hazards in Kelantan, Nur Syuhada Binti Anua (Universiti Sains Malaysia) (Main Supervisor)
- (2019) Efficiency in Reduction of Non-Revenue Water (NRW) to Increase Water Security in Kelantan, Mohammad Ghazi Bin Hj Ismail (Universiti Sains Malaysia) (Main Supervisor)
- (2019) Water security and Poverty Alleviation: Case of Urban Agriculture in Malaysia, Pushpawani A/P Ramaloo (Universiti Kebangsaan Malaysia) (Co-Supervisor)
- (2018) Ecotourism Potentials of Penang Towards a Sustainable Tourism Destination: A Case Study of Penang Hill, Mohd Firdaus (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Ketidakselesaian Terma akibat Pulau Haba Bandar terhadap Masyarakat di Pulau Pinang, Nur Aili Hanim Binti Hanafiah (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Carbon and Energy Footprint of Shrimp Aquaculture in Indonesia: The Opportunities and Limitations of International Responsible Aquaculture Standards, Riza Damanik (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Ecotourism and Environmental Conservation in Belum Temengor Forest Complex: A Multi-Stakeholder Perspective, Azreen Rozainee Abdullah (Universiti Sains Malaysia) (Main Supervisor)
- (2015) The Significance of Natural and Human Factors in Rice Farming Sustainability in Bangladesh, Ranjan Roy (Universiti Sains Malaysia) (Main Supervisor)
- (2014) Sustainable Tourism: A Study on Management and Sustainability Aspects of Salt Lick Ecotourism of Selected Salt Licks in Malaysia, Ang Sek Chuan (Universiti Sains Malaysia) (Main Supervisor)
- (2013) Assessment on Environmental Sustainability Aspects of Penang National Park Management, Hong Chern Wern (Universiti Sains Malaysia) (Main Supervisor)
- (2012) Pelancongan Bandar : Satu Kajian Persepsi Pelancong dan Penduduk di Georgetown, Pulau Pinang, Tan Cheng Hai (Universiti Sains Malaysia) (Co-Supervisor)
- (2012) Operational Efficiency and Environmental Effectiveness of the Malaysian Water Supply Sector, Ching Too al Kim (Wageningen University, Netherlands) (Field Supervisor)
- (2003) Pencemaran udara dan tahap keasidan jasad air kajian kes di negeri Pulau Pinang, Main bin Rindam (PhD (Universiti Sains Malaysia) (Co-Supervisor)
- (1999) Politics and Power: Government Intervention in the Muda Irrigation Scheme, Malaysia, Clare Louise Gorton (Middlesex University) (Field Supervisor)

<b>Master</b>
---------------

- (2023) A Study on Urban Tourism Brand Image of Gongyi City Based on Tourist Perception, Wang Xue (Universiti Sains Malaysia) (Main Supervisor)
- (2022) Addressing obstructive factors affecting ecotourism and sustainable development in Beibei District, Chongqing, Lyu Liqin (Universiti Sains Malaysia) (Main Supervisor)
- (2018) Human Aspects of Water Security With Special Focus on Consumers' Behaviour, Phang Wai Leng (Universiti Sains Malaysia) (Main Supervisor)
- (2017) Pertanian bandar di George Town: ke arah kehidupan komuniti yang lestari, Siti Sarah Binti Jamil (Universiti Sains Malaysia) (Main Supervisor)
- (2017) Using Rainwater harvesting System Towards Enhancing Water Sustainability in Yokohama, Geraldine Kong Sing Liin (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Issues and Challenges in Reducing Non Revenue Water (NRW) Rates: A Comparative Study of Penang State and Sabah State in Malaysia, Lai Chee Hui (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Adaptasi Komuniti Bandar Terhadap Pencemaran Udara: Kajian kes di George Town, Pulau Pinang, Siti Nur Aziah Binti Napi (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Persepsi Komuniti Bandar Terhadap Sistem Penuaian Hujan: Kajian Kes di George Town, Pulau Pinang, Priscilla Law Siew Ing (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Keterancaman, Adaptasi dan Daya Tahan Komuniti Bandar Terhadap Banjir di Kota Bharu, Kelantan, Nurul Hazwani Binti Siha (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Peranan Komuniti Setempat dan Pihak Pertubuhan Bukan kerajaan dalam Menangani Isu Pencemaran Sungai Pinang di George Town, Pulau Pinang, Nur Syuhada Binti Mustakim (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Adaptasi Komuniti Bandar Terhadap Fenomena Pulau Haba Bandar di George Town, Pulau Pinang, Nur Afiqah Binti Abdul Rahim (Universiti Sains Malaysia) (Main Supervisor)
- (2016) Kajian Pencemaran Mikrobiologi Dalam Air Minuman Dari Mesin Vendor Osmosis Berbalik Di Kawasan Sungai Dua, Daerah Timur Laut, Pulau Pinang, Azian Rizal Bin Ahmad (Universiti Sains Malaysia) (Main Supervisor)
- (2014) Policy Evaluation of Plastic Bag Ban: A Case Study in Penang, Malaysia, Ong Ke Shin (Universiti Sains Malaysia) (Main Supervisor)
- (2014) Kesedaran, kepuasan dan keyakinan masyarakat terhadap kualiti air paip domestik: kajian kes di bandar Georgetown, Pulau Pinang, Norshuhada Binti Anua (Universiti Sains Malaysia) (Main Supervisor)
- (2008) Pembangunan Ekopelancongan di Cameron Highlands: Satu Kajian Kes, Lee Boon Hiong (Universiti Sains Malaysia) (Main Supervisor)
- (2006) Fenomena pulau haba dan pemandaran: satu kajian kes di Pulau Pinang, Sin Hui Teng (Universiti Sains Malaysia) (Main Supervisor)
- (2005) Pembangunan pelancongan mampan : satu kajian persepsi pengunjung di Bukit Bendera, Pulau Pinang, Yong Thian Ming (Universiti Sains Malaysia) (Main Supervisor)
- (2003) Satu Kajian Variasi Ruangan Hujan Asid di Semenanjung Malaysia, Lee Ooi Peng (Universiti Sains Malaysia) (Main Supervisor)
- (1999) Urbanization and flash floods in Nibong Tebal Town Area, Seberang Prai Selatan, Pulau Pinang, Edlic Sathiamurthy (University of Malaya) (Co-Supervisor)

## TEACHING

---

### Master

1. HGT523 - SAINS MAKLUMAT GEOGRAFI DALAM PENGURUSAN SUMBER DAN BENCANA
2. EAD 514 - River Ecosystem (Offered by River Engineering and Urban Drainage Research Centre (REDAC) USM)
3. M.Sc. Sustainable Cities and Communities (Taught and Supervised Students in Thesis Component)
4. ED79.07 Disaster Management in Urban Environmental Planning 3(3-0) Semester: August, Asian Institute of Technology, School of Environment, Resources and Development (Taught in 2007/2008)

### Bachelor

1. HGA101/4 – Pengantar Geografi
2. HGF222/3 - Geografi Fizikal
3. HGG 454 - Topik-Topik Terpilih Dalam Geografi
4. HGM 430/3 – Pemikiran Geografi
5. HGT 222/4 - Teknik-Teknik Dalam Geografi
6. HGF227 - Iklim dan Cuaca
7. HGW372E – Geography of ASEAN and Asia Pacific
8. HGT 342/4 - Kaedah Penyelidikan dan Kajian Luar Geografi
9. HGF 225/3 - Proses-proses Alam Sekitar
10. HGF 226/3 Iklim, Cuaca dan Biogeografi
11. HGF 332/3 Alam Sekitar Mapan
12. HGP309 Projek Geografi
13. Geog 1001 - Introduction to Geography (Department of Geography, University of Memphis TN USA, Session 2000/2001)