



**Asian Network on
Climate Science and Technology
(ANCST)**

**Asian Network on Climate Science and Technology (ANCST) &
Malaysia Window to Cambridge at UKM (MW2C@UKM)**

Final Report 2018

1 February 2019

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Final Report 2018 to Cambridge Malaysian Education and Development Trust (CMEDT) and Malaysian Commonwealth Studies Centre (MCSC)

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ACKNOWLEDGEMENT

Universiti Kebangsaan Malaysia's Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM) would like to acknowledge the support of the Cambridge Malaysian Education and Development Trust (CMEDT) and Malaysian Commonwealth Studies Centre (MCSC) for funding the establishment and operations of the Asian Network on Climate Science and Technology (ANCST). The support of the Advisory Committee on Protection of the Sea (ACOPS), Guy Carpenter Asia-Pacific Climate Impact Centre, City University of Hong Kong, Indian Institute of Science, Bangalore and Indian Institute of Technology, Delhi is also much appreciated. National and international partners of ANCST who have co-financed workshops and other activities are also gratefully acknowledged.

Asian Network on Climate Science and Technology (ANCST)

1.0 Introduction

Climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve sustainable development. This is recognised in the three major global agreements of 2015; the Paris Agreement of the UN Framework Convention on Climate Change, Sendai Framework on Disaster Risk Reduction and 2030 Agenda for Sustainable Development. Increases in global temperature, sea level rise, ocean acidification and other climate change impacts are serious threats that have to be addressed. The survival of many societies and of the biological support systems of the planet is at risk. Whilst global level cooperation facilitate means of cooperation, context specific and continuous capacity enhancement, data and knowledge improvement is required to identify practical solutions to mitigate the issue. Such solutions are best marshalled by a network of regional experts who are already engaged in scientific and technological work in their respective areas.

The Collaborative Agreement between Universiti Kebangsaan Malaysia (UKM) and the Cambridge Malaysian Education and Development Trust and Malaysian Commonwealth Studies Centre (CMEDT/MCSC) signed on 19 November 2013 to establish ANCST, provided support for (i) administrative functions; (ii) promotion of disaster prevention and climate resilience in Asia through collaborative capacity building and outreach programmes; (iii) academic and research activities through staff exchanges and collaborations of common interests; and (iv) facilitation of student exchanges to enhance awareness and strengthen ties between the institutions. The robust structure of ANCST (Annex 1), which has underpinned its remarkable progress was conceived by principal partners and key players in the region from two international workshops, organised under the aegis of UKM and CMEDT/MCSC, the first in Bangalore, India (July 2011) and the second in Bangi, Malaysia (November 2012).

ANCST facilitates collaboration and exchange of information between researchers engaged in scientific and technological aspects of climate science, climate change, natural disasters, as well as associated impacts, adaptation and solution pathways specific to Asian conditions and phenomena. This is done from its base at UKM, with support from world-class Commonwealth institutions in Cambridge (Cambridge's Centre for Climate Change, DAMTP, ACOPS), Hong Kong (Guy Carpenter Asia-Pacific Climate Impact Centre at the City University) and India (Indian Institute of Science Bangalore & Indian Institute of Technology Delhi). Prominent Asian experts lead Special Topic Groups that constitute the core of ANCST at the regional level, marshalling members from multiple disciplines and age cohorts in Asia on clearly defined topics related to climate science and technology.

Special Topic Groups (STG) led by prominent Asian experts bring ANCST Members together by convening workshops and training courses, conducting joint research, exchanging research findings and laying the foundation for creation of common data bases. These currently include:-

- ❖ STG on **Disaster Prevention and Climate Resilience**, led by Professor Rajib Shaw, Keio University, Japan;
- ❖ STG on **Atmospheric Composition and Climate Change**, led by Professor Mohd Talib Latif, Universiti Kebangsaan Malaysia;
- ❖ STG on **Climate Change, Floods and Anthropogenic Activities**, led by Professor Zulkifli Yusup, Universiti Teknologi Malaysia;
- ❖ STG on **Urban Meteorology and Climate**, led by Professor Johnny Chan & Prof. Jimmy Fung, Hong Kong; and
- ❖ STG on **Asian Atmosphere- Ocean Processes**, led by Professor Manju Mohan, Indian Institute of Technology Delhi.

2.0 Achievements

2.1 Administrative Functions

Since its establishment, key members of the ANCST International Steering Committee (Annex 2) have met in the margins of technical workshops to plan and monitor the high level of activities conducted in the region. Meeting notes have been shared with members of the ANCST International Advisory Committee (Annex 3), who provide guidance and strategic inputs to expand the influence of the network in the region. Annual reports have been prepared with detailed financial statements and copies of receipts of expenditure for the funds that is managed by the UKM Bursar, and submitted annually to CMEDT/MCSC.

In 2018, the administrative functions of ANCST in monitoring progress and planning of activities were facilitated by two meetings. The meetings were held on 28 June 2018 and 15 November 2018 in Kuala Lumpur, Malaysia.

2.2 Capacity Building and Outreach Programmes

The five Special Topic Groups of ANCST have enabled enhanced connectivity between scientists of multiple disciplines and age cohorts working on climate issues in Asia. Key climate science and technology topics advanced by ANCST include monsoon dynamics, land-sea interactions, climate change effects on the urban environment, and climate-driven disaster risk reduction and resilience. Since its establishment ANCST has **assembled over 1200 scientists in Asia**, comprising researchers, policy-makers, private sector practitioners and early career researchers. This was accomplished in partnership with key national and regional partners, **through 34 workshops** and associated events.

In 2018, ANCST convened **six events** with multiple partners involving some **400 participants** from the region, comprising researchers, practitioners and decision-makers from the government, private and non-government sectors. The events funded by the MCSC/CMEDT, Newton-Ungku Omar Fund (NUOF) and key partners have contributed to disseminate information on policy relevant climate science and technology. The workshop reports are available on the ANCST website and plans are afoot for their publication. Highlights include the following:-

- **Workshop on Landslide and Karst Susceptibility Assessment, 1 March 2018, Pulse Grande Hotel, Putrajaya.** ANCST leveraged on partners involved in the NUOF project, primarily the British Geological Survey, to convene this workshop. About 40 participants representing the government, private and non-government sectors were involved. They were provided with an update on the latest instruments and techniques involved in assessing susceptibility to climate influenced geohazards.
- **International Conference on Atmospheric Composition and Climate Change in Asia 2018 (ICACCCA), 27-28 March 2018, UKM, Bangi.** ANCST jointly convened this event with Universiti Kebangsaan Malaysia, University of Malaya, Meteorological Department of Malaysia (MMD) and Department of Environment Malaysia (DOE). The conference involved about 130 researchers, experts and environmental organizations countries such as China, India, Indonesia, Pakistan, Thailand and the United States.



The STG on Atmospheric Composition and Climate Change, led by Professor Mohd Talib Latif of Universiti Kebangsaan Malaysia, met in the margins of the ICACCCA 2018.

- **SEADPRI Forum on Typhoon Risk Assessment for Coastal Cities, 14 May 2018, Hotel Puri Pujangga, Bangi.** ANCST Director Prof. Johnny Chan provided the latest approaches and findings for assessing the risk of typhoons in a changing climate. The Forum organised in conjunction with the Meteorological Department of Malaysia (MMD). About 30 participants comprising researchers from various technical agencies and universities in Malaysia attended the event.
- **Workshop on Disaster Resilient Cities: Advances in Meteorological Forecasting and Hazards Assessment, 28-29 June 2018, Hotel Le Meridian, Kuala Lumpur.** ANCST was a joint-convenor of the workshop supported by the Newton-Ungku Omar Fund, led by SEADPRI-UKM and University of Cambridge in collaboration with other partners, involving some 80 participants. Key members of the ANCST International Steering Committee and Advisory Committees also shared their expertise in meteorological forecasting and assessment of urban hazards.
- **Workshop on Status of Climate Science and Technology in Asia, 15-16 November 2018, Sheraton Imperial, Kuala Lumpur.** ANCST led this workshop on behalf of the IPCC, in collaboration with the Asia-Pacific Network for Global Change Research (APN) and International Science Council Regional Office for Asia and the Pacific (ISC-ROAP). The findings of the workshop, which involved about 80 participants, will be published and uploaded onto the ANCST website. The report will also be presented to governments during the 49th Session of the Intergovernmental Panel on Climate Change (IPCC) scheduled to take place from 8 to 12 May 2019 in Kyoto, Japan.
- **Conference on Flood Catastrophes in a Changing Environment II (CFCCE' II-2018), 15-18 November 2018, Nanjing, China.** ANCST was a joint-convenor of the conference following the first one held in 2016 in Malaysia. The event provided a forum for researchers and managers to share the latest research findings on floods in tropical areas to improve understanding of driving mechanisms, approaches for mitigation and good practices on flood management.



The first ANCST meeting on 28 June 2018, jointly chaired by Prof. Lord Julian Hunt and Prof. Joy Jacqueline Pereira, was held in the margins of the Workshop on Disaster Resilient Cities.



Prof. Lord Julian Hunt and Prof. Joy Jacqueline Pereira jointly chaired the second ANCST meeting on 15 November 2018 in the margins of the Workshop on Status of Climate Science and Technology in Asia.



The STG on Climate Change, Floods and Anthropogenic Activities, led by Professor Zulkifli Yusup (third from right) of Universiti Teknologi Malaysia met in the margins of the CFCCE' II-2018 in Nanjing, China.

2.3 Academic and Research Activities

Targeted high level science-policy interfacing is critical for strengthening linkages with key strategic partners to influence regional research priorities and facilitate development of regional initiatives. High level science-policy interfacing has enabled ANCST to contribute to the mainstreaming of policy relevant solutions for building climate resilience in the region. This has been augmented by the involvement of ANCST in informal discussions at international platforms and institutions for climate change and disaster risk reductions. Since establishment, targeted science-policy interfacing with regional and global institutions has resulted in four major collaborative projects worth over £2.2 million from external sources, where the role of ANCST is to provide the pathway for enhanced regional synergies.

In 2018, ANCST increased its profile to the highest level ever and facilitated the advancement of science, technology and innovation to support the IPCC in its Sixth Assessment Report Cycle, and indirectly expedited implementation of the Sendai Framework on Disaster Risk Reduction and Paris Agreement in Asia. This was achieved by participating in multi-sector and multi-disciplinary partnerships as well as jointly organising events and collaborative initiatives with the IPCC, UNESCO, Global Earth Observation (GEO), ASEAN, UNISDR, Integrated Research on Disaster Risks (IRDR), Coordinating Committee on Geosciences for East and Southeast Asia (CCOP), Chinese Academy of Sciences (CAS-DBAR), APEC Climate Center and Asian Ministerial Meeting on DRR, among others.

In 2018, publications by key members of ANCST include articles and workshop reports in journals. Reports of events are also uploaded to the ANCST website (<http://www.ancst.org/>) to enhance outreach. An agreement has been signed with the Springer publication of ANCST on Climate Change Adaptation in Southeast Asia.

In 2018, the **ANCST Website Portal** (<http://www.ancst.org/>), which serves as a central resource for current, accurate and accessible information on climate science and technology, received over 450,000 visitors. The **ANCST Bulletin Board**, sent out periodic short emails alerts on time-sensitive news, such as calls for expert review and chapter scientists by the IPCC, calls for application to participate in workshops or training for early career researchers, etc. The STG Leaders generally availed themselves to this service to enhance communication with scientists in the region. The **ANCST Database** currently contains the contact information of over 1000 experts and policy-makers working on climate science and disaster resilience in Asia. Events convened by ANCST provide an opportunity to grow its membership and expand the database.

RECENT PUBLICATIONS

- ❖ **Pereira, J.J. & Hunt, J.C.R.** 2018. Asian Network on Climate Science and Technology (ANCST): Facilitating Exchange on Disaster Risk Information and Climate Science. In: Shaw R., S. Yang, E. Chan & P. Shi. 2018 (eds.). *Science & technology into action: Disaster risk reduction perspectives from Asia*. Beijing, China: ASTAAG Secretariat, pp. 23.
- ❖ Wang, K., Aktas, Y.D., Stocker, J., Carruthers, D., **Hunt, J.C.R.**, Malki-Epshtein, L. 2018. Urban Heat Island Modelling of a Tropical City: Case of Kuala Lumpur.
- ❖ Byuiyan, T.R., Reza M.I.H, Choy, E.A. & **Pereira, J.J.** 2018. Facts and Trends of Urban Exposure to Flash Flood: A Case of Kuala Lumpur City. In: **Zulkifli Yusof**, Azmi Aris, Nor Eliza Alias, Kogila Vani Annammala, William L. Waugh, Jr. (eds). *Improving Flood Management, Prediction on Monitoring*. Emerald Publishing Limited, pp.79-90.
- ❖ **Pereira, J.J.**, 2018. Science and technology to enhance disaster resilience in a changing climate. In: **Rajib Shaw**, R., Shiwaku, K. & Izumi, T. (eds.). *Science and Technology in Disaster Risk Reduction in Asia: Potentials and Challenges*. Academic Press: London, pp. 31-38.
- ❖ Fung, J. C. H., **Chan, J. C. L. & Hunt, J. C. R.** 2017. Urban meteorology and climate research in Asia. *Current Science* 12:6, 1023-1024.
- ❖ **Pereira, J.J., Hunt, J.C.R. & Nurfashareena, M.** 2017. Forecasting urban climate extremes. *SEADPRI Bulletin* 15, pp. 12.

2.4 Student Exchanges: Malaysia Window to Cambridge at UKM

The Cambridge Malaysian Education and Development Trust, in association with the Malaysian Commonwealth Studies Centre (MCSC/CMEDT) rewarded ANCST with additional funding support for the “Malaysia-Window-to- Cambridge at UKM” programme, for a duration of two years, in 2017 and 2018. The programme aims to enhance the capacity of early career researchers in atmospheric science and climate change for building disaster resilience in the region. The programme also serves as a gateway to Cambridge, with broader UK-Asia interactions provided by ANCST. The inaugural training programme in 2017 unearthed a talent pool of 40 high calibre young scientists for ANCST in Asia.

In 2018, the Malaysia-Window-to- Cambridge programme organised 3 training sessions involving early career researchers from 10 countries in Asia. There were no successful applicants for the Summer School in Cambridge. The role of ANCST was to advertise the training workshops on the website and oversee the training in conjunction with partners. Early career researchers (below 30 years old) from the region were invited to submit case-studies or manuscripts with their application. Highlights of the training are as follows:

- Workshop on Disaster Resilient Cities: Advances in Meteorological Forecasting and Hazards Assessment, 28-29 June 2018, Kuala Lumpur:** The training session was held in conjunction with this workshop. About 25 early career researchers submitted case studies with their applications to participate in this workshop. The best case studies were selected for the training, where 10 were from Pakistan, Nepal, Philippines, Indonesia, Myanmar and Vietnam and 2 from two institutions in Malaysia (UKM & UM). The trainers were from the UK, India, China, Philippines and Malaysia. The focus was on the range of approaches for developing highly relevant forecasting products. Trainees were required to further develop their case studies, most of which have been reviewed by the UK partners. The case studies will be published in the SEADPRI Bulletin and uploaded onto the ANCST website.
- Training on Geohazards and Disaster Risk Reduction, 18-20 September 2018, Penang:** The training was held in conjunction with the National Geoscience Conference (NGC 2018). The focus was on communication of science to multiple end-users in cities including planners, regulators and insurers. Trainers from the UK and Malaysia led technical sessions and field trips involving 7 participants from Indonesia, Myanmar, Nepal, Pakistan, Philippines and Vietnam and 3 participants from Malaysia. The focus was on enhancing the capacity of geologists in the region and as science communicators by sharing professional experience on risk management and communication from Malaysia and the UK. Crucial skills and strategies were imparted on communicating science to non-specialists that addressed local context. Selected manuscripts submitted by the candidates are expected to be published in the Bulletin of Geological Society Malaysia.



The Malaysia Window to Cambridge trainees conducted a panel discussion during the Workshop on Disaster Resilient Cities.



The Malaysia Window to Cambridge trainees shared their experience on communicating risk of hazards during discussion sessions (trainee standing: Mr. Sabin Sharma from Nepal)



During the field visit, trainers Dr. Alan Thompson (UK) and Mr. Zamri Ramli (Malaysia) led the discussion on using drones for site assessment of landslide-prone areas in Penang.



- **Workshop on Status of Climate Science and Technology in Asia**, 15-16 November 2018, Kuala Lumpur: The training session was held in conjunction with this workshop. The primary aim was to improve participation of early career researchers and coverage of scientific information from Central Asia, West Asia, Southeast Asia and South Asia, to support the IPCC AR6 cycle. The number of participants in this workshop was augmented with support from key partners in the region. Trainees sponsored by the Malaysia Window to Cambridge included 10 early career researchers from India, Pakistan, Philippines, Nepal, Singapore and Malaysia. They had an opportunity to connect with senior scientists as well as authors working on Asian issues in the IPCC AR6 cycle. They also had the opportunity to share current knowledge and technology on climate change and disaster risk reduction from their countries. This platform enabled the trainees to showcase their talents to IPCC authors and be selected as IPCC Reviewers, Contributing Authors and Chapter Scientists, where appropriate.



Malaysia Window to Cambridge sponsored ten early career researchers to the ANCST-IPCC Workshop on Status of Climate Science and Technology in Asia.



The Workshop facilitated the interaction of early career researchers with IPCC authors from Asia (standing: Dr. Shaukat Ali from Pakistan).

3.0 Work Plan for 2019 and Beyond

3.1 Proposed Activities in 2019

The ANCST Special Topic Groups are planning to convene at least five workshops in 2019, in conjunction with multiple national and regional partners. The workshops will be advertised on the ANCST website and they are as follows:-

- ❖ Workshop on Modelling Atmospheric-Oceanic Processes for Extremes (MAPEX 2019), 21-22 Mac 2019, New Delhi [Convened by Prof. Manju Mohan, Leader of STG on Asian Atmosphere-Ocean Processes];
- ❖ Atmospheric Composition and Asian Monsoon Workshop (ACAM 2019), 23-28 June 2019, UKM, Bangi [Convened by Prof. Mohd Talib Latif, Leader of STG on Atmospheric Composition and Climate Change];
- ❖ Workshop on IPCC 6th Assessment Report, 15-16 October 2019, Kuala Lumpur [Convened by Prof. Hunt and Prof. Pereira];
- ❖ 2nd Workshop on Asian Urban Meteorology and Climate during 17-19 October 2019, Hong Kong [Convened by Prof. Johnny Chan & Prof. Jimmy Fung, Leaders of STG on Urban Meteorology and Climate];
- ❖ Workshop on IPCC 6th Assessment Report, 23-25 October 2019, Suva, Fiji [Convened by Prof. Pereira and Prof. Rajib Shaw, Leader of STG on Disaster Prevention and Climate Resilience].

The ANCST meeting on 15 November 2018 proposed the establishment of a **new STG on Young Professionals in DRR and Climate Change** will be formed to link youths and young professionals in the region. The purpose of this STG is to provide a platform for youth or early career researchers involved in climate change and disaster risk reduction, to be found by senior researchers in Asia, to advance beneficial linkages between these two groups in Asia. The proposal is being explored and a specific discussion on this matter will be held in October 2019, in conjunction with APN, ISC-ROAP, UNESCO and other key parties.

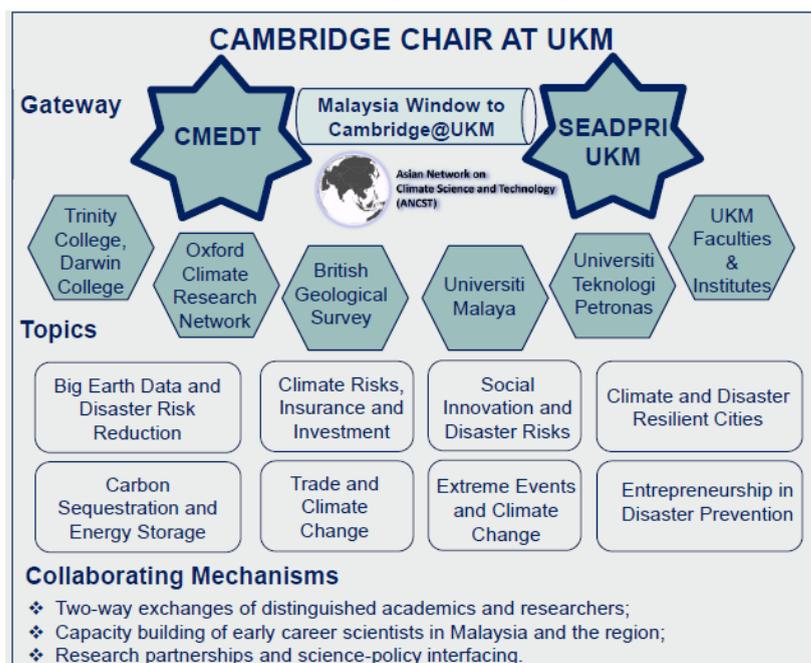
Publication of manuscripts from events held in the previous year will continue in 2019, under the leadership of STG leaders. Targeted science-policy interfacing will focus explicitly on securing support for activities in 2020 and beyond.

The ANCST website will be continuously improved to serve as a forum between scientists and policy-makers in the region. The membership of ANCST will be grown via its workshops and periodic email blasts to various other networks. Every listed member in ANCST's database will receive ANCST bulletin, information on training, research publication as well as IPCC's call to review the reports.

3.2 Plans Beyond 2019

Plans are afoot to institutionalise the Malaysia Window to Cambridge within UKM. The Window will be augmented with the establishment of a Cambridge Chair at UKM to enhance the global image of University of Cambridge and Universiti Kebangsaan Malaysia as research collaborators in building resilience to climate change and natural disasters, through the Malaysia Window to Cambridge at UKM, under patronage of the Cambridge Malaysia Education Development Trust (CMEDT). It is envisaged that the CMEDT will serve as the gateway to entities in Cambridge and the UK (Oxford, University College London, British Geological Survey, the UK Met Office, etc.). SEADPRI-UKM will serve as the gateway to Malaysia (i.e. University of Malaya, Universiti Teknologi Petronas, etc.) as well as ASEAN and the Commonwealth in Asia, drawing on the linkages of ANCST. Topics covered will build on the existing strength of ANCST in climate science and technology to build disaster resilience.

The Cambridge Chair is intended to support two-way exchanges of distinguished academics and researchers and serve as a gateway to Cambridge and the UK. Focus will also be given to strengthen capacity of early career scientists in Malaysia and the region in skills related to atmospheric science, geophysical hazards, risk reduction and science communication, to build resilience to climate change and natural disasters. In the long-term, the aspiration is to expand the influence of both University of Cambridge and Universiti Kebangsaan Malaysia in the region by bridging the knowledge gap between climate science and policy to support governance, economics and social innovation, building on the pioneering work of the Asian Network on Climate Science and Technology (ANCST).



Discussion on this matter is under progress with the management of UKM. A visit is planned to Cambridge in July/August 2019, to meet with the CMEDT as well as researchers and academics from Cambridge (and the UK), to identify interested parties for this initiative. This will facilitate the Malaysian side in securing multiple funding sources for the proposed Cambridge Chair at UKM.

4.0 Financial Account

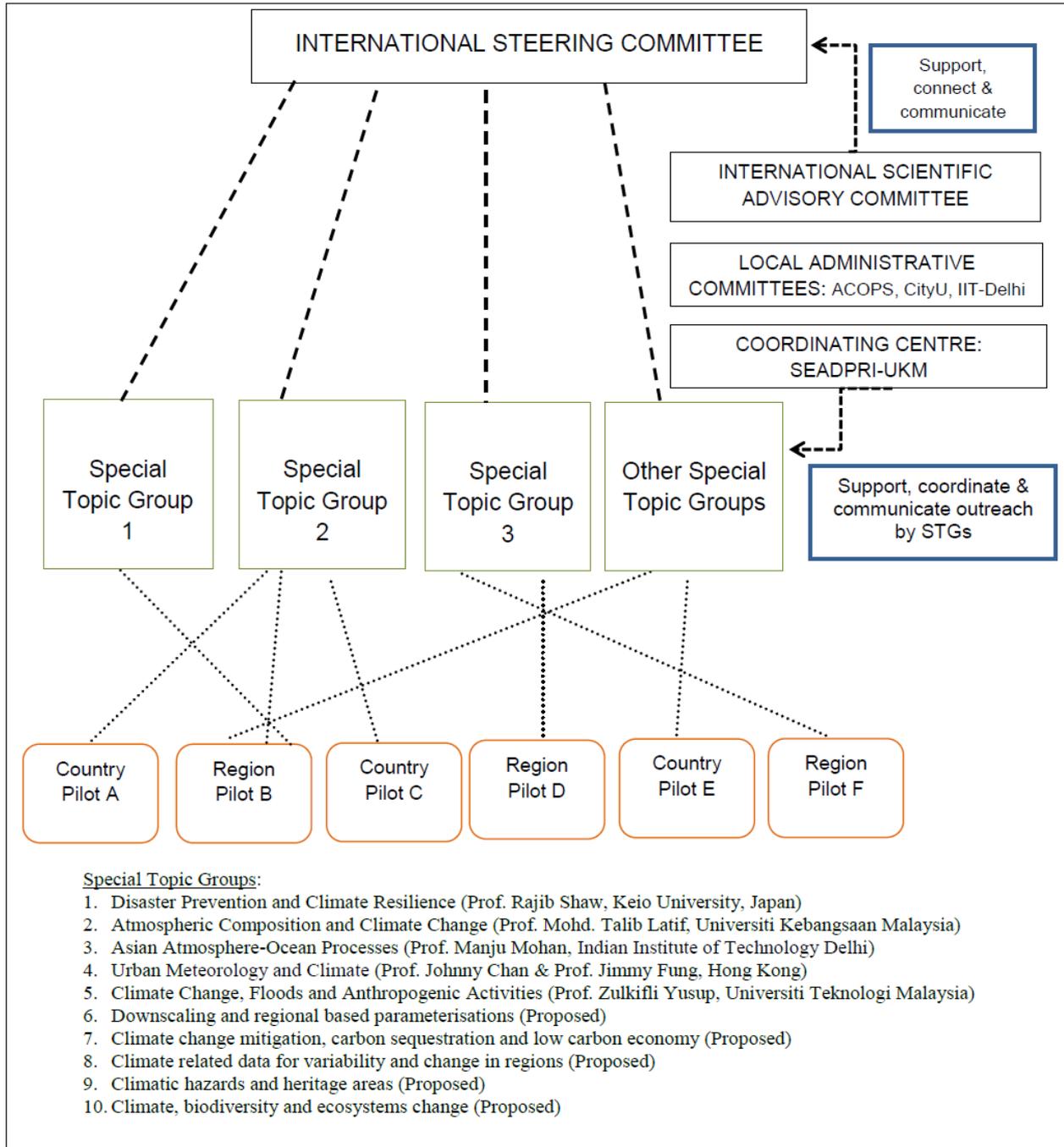
The Malaysian Commonwealth Studies Centre (MCSC) and the Cambridge Malaysian Education and Development Trust (CMEDT) funded the establishment of the Asian Network on Climate Science and Technology (ANCST) in 2013. UKM's Southeast Asia Disaster Prevention Research Initiative (SEADPRI-UKM) serves as the main coordination centre of ANCST, where seed-funding from CMEDT/MCSC is limited to organisation of technical meetings, support for travel and administration costs. There is no funding for research.

The seed-funding pledged by the CMEDT/MCSC for ANCST and its associated programmes increased over the years to a total of £322,000. The increased amount aimed to (i) support expanded plans for strengthening science-policy interaction through targeted networking as well as enhanced participation of high-level policy and decision makers at events undertaken by its Special Topic Groups; and (ii) establish a new initiative named the 'Malaysia-Window-to-Cambridge at UKM' for the training of early career scientists to become future research leaders and "stars" of ANCST in the region.

The operations of ANCST have also leveraged on collaborative projects worth over £2.2 million, funded by the other external parties. The collaborative projects and additional support from key partners at regional and national levels have enable ANCST activities to be funded more broadly, extending beyond the Commonwealth dimension in Asia. The CMEDT/MCSC has disbursed a total amount of £322,000 to UKM as of 31 December 2018. There is no outstanding amount owed to UKM.



Organisation of ANCST [Revised 24 May 2017]



ANCST International Steering Committee: Terms of Reference and Members

Introduction

The **Asian Network on Climate Science and Technology (ANCST)** is funded by the Cambridge Malaysian Education and Development Trust (CMEDT) and Malaysian Commonwealth Studies Centre (MCSC), with the Southeast Asia Disaster Prevention Research Initiative of Universiti Kebangsaan Malaysia (SEADPRI-UKM) serving as the Coordinating Centre. ANCST was formally launched on 19 November 2013 in Putrajaya, Malaysia.

Dedicated to science, technology and innovation with application to disaster and climate resilience, ANCST brings together academics and researchers from various disciplines to a multidisciplinary platform to strengthen their capacity, while simultaneously interacting with other multi-stakeholder networks, intergovernmental bodies and multi-lateral institutions operating in the region. ANCST does this with the support of various academic and research institutions in Asia, including the City University of Hong Kong, Divecha Centre for Climate Change, IIT-Bangalore and University of Malaya, among others.

The organisation of ANCST comprises an International Steering Committee, International Scientific Advisory Committee, Local Administrative Committee, Coordination Centre, National Platforms or Pilot Centres and Special Topic Groups (see figure). Application for institutional and individual membership can be submitted directly to the Coordination Centre at SEADPRI-UKM or via a national organisation serving as the platform or pilot centre.

Terms of Reference

The International Steering Committee is responsible for developing ANCST programmes including outreach and collaboration with other networks. Members of the International Steering Committee are prominent scientists in the field of climate science and technology. The International Steering Committee is an entirely voluntary commitment so there is no explicit workload requirements, beyond reasonable expectations of discharging the activities detailed in these terms of reference or efforts volunteered and documented in agreed meeting notes. The International Steering Committee will communicate primarily through teleconferences and emails at least on a quarterly basis. The function of the Committee is as follows:-

- Identify flagship themes for meetings and collaboration, and promote collaboration and co-funding (where possible and appropriate) with other networks;
- Conduct programmes recommended by the membership and International Scientific Advisory Committee, where relevant and financially viable;
- Plan and organise a reasonable number of meetings, academic conferences and workshops conducted under the auspices of ANCST;
- Secure funding for a reasonable number of young researchers to attend strategic science workshops;
- Promote ANCST to peers and provide scientific oversight and technical input to the National Platforms and Special Topic Groups under its oversight;
- Review the ANCST website and annual reports prepared by the Coordination Centre.

Members

The International Steering Committee is responsible for developing ANCST programmes including outreach and collaboration with other networks. Members of the International Steering Committee are as follows:-

- Prof. Joy Jacqueline Pereira, Southeast Asia Disaster Prevention Research Initiative, Universiti Kebangsaan Malaysia (SEADPRI-UKM)
- Prof. Johnny Chan, School of Energy and Environment, City University of Hong Kong
- Prof. Manju Mohan, Indian Institute of Technology, Delhi
- Emeritus Prof. Lord Julian Hunt, Advisory Committee on Protection of the Sea (ACOPS)
- Prof. J. Srinivasan, Indian Institute of Science, Bangalore
- Prof. Jun Matsumoto, Tokyo Metropolitan University
- Prof. Jianping Wu, Tsinghua University, China
- Prof. Rizaldi Boer, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific (CCROM-SEAP), Bogor Agricultural University

ANCST International Scientific Advisory Committee: Terms of Reference and Members

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Terms of Reference

The International Scientific Advisory Committee comprises internationally renowned experts in the fields relevant to climate science and technology. Members of the International Scientific Advisory Committee are appointed for a period of 3 years. Termination of membership during this period is by mutual consent. Members are expected to take active part in the development of ANCST and communication is primarily via email. The function of the Committee is as follows:-

- Provide strategic advice to the International Steering Committee, based on international trends and scientific development within the field of climate science and technology;
- Provide inputs on programmes that are proposed by the membership as well as the International Steering Committee, National Platforms or Pilot Centres and Special Topic Groups;
- Review and recommend changes in the overall goal and organisational structure of ANCST to accommodate emerging needs and changes during implementation of programmes;
- Propose interaction with multi-stakeholder networks, intergovernmental bodies and multi-lateral institutions operating in the region, to bridge the science-policy interface;
- Review annual progress reports and recommend partners and members to further strengthen ANCST in the region.

Members

The International Scientific Advisory Committee comprises internationally renowned experts in fields relevant to climate science and technology. Members of the International Scientific Advisory Committee are as follows:-

- Prof. Datuk Azizan bin Hj. Abu Samah, National Antarctic Research Centre, University of Malaya
- Prof. Alfredo M.F.A. Lagmay, National Institute of Geological Sciences, University of The Philippines
- Dr. Saleemul Huq, International Institute for Environment and Development (IIED)
- Prof. Anand Patwardhan, Shailesh J. Mehta School of Management, Indian Institute of Technology Bombay
- Dr. Matthias Roth, Department of Geography, National University of Singapore
- Dr. Louis Lebel, Faculty of Social Science, Chiang Mai University
- Dr. Yihui Ding, National Climate Center, China Meteorological Administration
- Prof. Ngar-Cheung Gabriel Lau, Institute of Environment, Energy and Sustainability, The Chinese University of Hong Kong
- Prof. Dr. Taroh Matsuno, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)