

Annual Report of MAIRS-FE Activity

International Project Office

April 2018

<http://www.mairs-fe.org>



Monsoon Asia Integrated Research on Sustainability- Future Earth

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1. Introduction to MAIRS

The Monsoon Asia Integrated Research for Sustainability Study (MAIRS) program aims to advance understanding of (1) the interactions between the human and natural components of the environment of monsoon Asia and (2) the implications of these changes for the global earth system, in order to support strategies for sustainable development. Over the last decade, MAIRS has focused on cross-cutting global change issues related to the unique Asian monsoon climate and topography, and developed links across the diverse cultures and societies of Asia. Moreover, MAIRS has facilitated links between researchers and stakeholders, including local governments and communities.

The transition of MAIRS into a Future Earth global research project had been discussed for two years. At the meeting of the Scientific Steering Committee (SSC) in November 2016 hosted by Future Earth Regional Centre for Asia, it was decided that MAIRS would be transformed to Monsoon Asia Integrated Research for Sustainability – Future Earth (MAIRS-FE). At that meeting, offers of support to host the International Project Office (IPO) for MAIRS-FE at Peking University in Beijing, China, and to host the Regional Project Office (RPO) at the Indian Institute for Science in Bangalore, India, were accepted. Also at the meeting, Tong Zhu was appointed as Interim Director of the IPO and S.K. Satheesh was appointed as Interim Director of the RPO. Michael Manton is Chair of the Scientific Steering Committee of MAIRS-FE.

On 24 January 2017, Future Earth and Monsoon Asia Integrated Research for Sustainability - Future Earth (MAIRS-FE) signed a memorandum of understanding to complete the transition of the project to Future Earth. Representatives from both groups signed the agreement at the Fifth Workshop on Future Earth in Asia held at the Research Institute for Humanity and Nature (RIHN) in Kyoto. MAIRS-FE then officially became one of 20 global research projects of Future Earth.

In October 2017, Tong Zhu stepped down from the position of Interim Director of the MAIRS-FE IPO, and Prof. Hancheng Dai from Peking University was appointed as the Executive Director of the IPO. Earlier in the year, at the MAIRS RPO in the Indian Institute for Science Bangalore, Prof. J. Srinivasan was appointed as Executive Director.

The research priorities of MAIRS-FE have focused on three areas as follows:

- (a) **Resilience to climate-related natural disasters.** Specifically, MAIRS-FE will include the following research topics: factors that affect long-term resilience of local communities to natural disasters; the role of science and scientists in enhancing the resilience of various sectors of society to disasters; safety nets and insurance; communicating science information to various stakeholders; development of standardised loss and damage assessment methods.
- (b) **Human health in monsoon Asia,** including: the health effects of air pollution in indoor and outdoor air and in urban and rural areas; the co-benefits of achieving air pollution improvement and climate change reduction based on human health perspectives; the health effects of water shortages and water pollution; climate change and water borne and air borne infectious diseases; food supply and malnutrition; integrated preventative measures for protecting the health of the general public, including clean energy, clean stoves, clean water, urban planning, public transit systems, and sustainable agriculture.
- (c) **Water, energy and food nexus.** The WEF nexus specifically examines the dynamic coupling of water, energy and food systems and associated processes that link the drivers and consequences, leading to holistic and sustainable solutions to these interwoven challenges; addressing the WEF nexus requires trans-disciplinary endeavour that cuts across sectors and disciplines through co-designing and co-generating knowledge with stakeholders.

2. MAIRS-FE Activities in 2017

2.1 Workshop on Asia WEF Nexus

An international Workshop on Asia WEF Nexus was held from July 11-15, 2017 at Nakhon Phanom University, Thailand. The major objectives of the workshop include:

- Present latest WEF Nexus research findings and ongoing activities
- Launch of new international initiatives:
 - Asia Hub Initiative – Concept, goals, objectives, implementation strategies & opportunities
 - MAIRS –FE Asia WEF Nexus Working Group
 - New NASA IDS Project – Project design, objectives, planned activities and opportunities to participate.

2.2 Activities in Regional Project Office in India

The Regional Project Office (RPO) in India held meetings conducted in Bengaluru as a part of the MAIRS program as follows:

1. Frontiers in Earth and Climate Science: A conclave of young scientist from Central and South Asia, 5th to 7th December, 2016
2. Workshop on “water challenges and solution in India” in collaboration with sustainable water futures program, 1 July-1 August, 2017
3. An international workshop on performance and potential of wind energy systems in India, 22nd and 23rd August 2017.

2.3 Meeting of disaster and resilience KAN in Tokyo

From 22nd to 25th November, 2017, the MAIRS Executive Director attended the Workshop of Knowledge-Action Network (KAN) on “Emergent Risks and Extreme

Events – Reducing Disaster Risks under Environmental Change” and “Global Forum on Science and Technology for Disaster Resilience 2017”. Dr. Hancheng Dai from MAIRS-FE served as a discussant for the parallel session and raised comments on how to link the key concerns of disaster research with other main global agenda such as the Paris Agreement.

2.4 Communication

- The MAIRS-FE web page has been developed: <http://mairs-fe.org/>
- Liaison with other organizations:
 - Dr. Qian Ye, the International Human Dimensions Programme on Global Environmental Change—Integrated Risk Governance Project (IHDP/Future Earth-IRG Project),
 - Dr. Qunli Han (Director of Integrated Research on Disaster Risk, IRDR),
 - Dr. Lee. WCRP Joint Planning Staff.
 - Dr. Megan L. Melamed, Executive Director, IPO of International Global Atmospheric Chemistry (IGAC, Future Earth Global Research Project)
 - Dr. Mei Zheng, SSC member of IGAC
 - Dr. Guiling Zhang, SSC member of Surface Ocean and Lower Atmosphere Study (SOLAS Future Earth Global Research Project)

3. MAIRS Activities in 2018

In 2018, the following activities are going to take place:

- An SSC meeting will be held early in the year, with the appointment of new SSC members.

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- Organizing workshops for the three working groups.
 - Active engagement with FE Asian Center and with FE KANs
 - Engagement with other relevant programs such as PAGES (Past Global Changes | Future Earth) and CORDEX (Coordinated Regional Climate Downscaling Experiment).
 - Workshop on Urban Floods in April 2018 with participants invited from different countries of Asia (to be organized by RPO).
 - Workshop on Climate change over high mountains of Asia in June 2018 with participants from different countries in Asia (to be organized by RPO).