Consolidating Learning About Stakeholder Engagement from Research and Practice: Toward the Development of Hydro-climatic Services

Report of Researcher Exchange April–May 2017

December 2017

INDIA-UK
Water Centre
भारत-यूके
जल केन्द्र

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www.iukwc.org

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CITATION

Daly, M., Lobo, C., D'Souza, M. (2017). Consolidating Learning About Stakeholder Engagement from Research and Practice: Toward the Development of Hydro-climatic Services: Report of Researcher Exchange 30 August 2017. India-UK water Centre; Centre for Ecology & Hydrology, Wallingford and Indian Institute of Tropical Meteorology, Pune.

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The India-UK Water Centre promotes cooperation and collaboration between the complementary priorities of NERC-MoES water security research.

भारत-ब्रिटेन जल कें द्र एमओईएस-एनईसीआरसी(यूके) जल सुरक्षा अनुसंधान के पूरक प्राथमिकताओ के बीच सहयोग और सहयोग को बढ़ावा देने के लिए करना है

Front and back cover image: A paddy field in India, Pixabay (sarangib)

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Executive Summary

This report documents and discusses activities carried out under a Researcher Exchange funded by the India-UK Water Centre (IUKWC) on the topic of "Consolidating Learning About Stakeholder Engagement from Research and Practice: Toward the Development of Hydro-climatic Services." This exchange enabled Dr. Meaghan Daly, from University of Leeds, UK to conduct a three week exchange hosted by Mr. Crispino Lobo and Dr. Marcella D'Souza at the Watershed Organisation Trust (WOTR) in Pune, India from 28 April–18 May 2017. This report provides background on the rationale for conducting the research exchange on the topic of stakeholder engagement within hydro-climatic services, as well as a review of the objectives. This is followed by a description of the activities carried out under the exchange and a brief summary of themes and outcomes arising from a mini-workshop conducted on the topic of user engagement within development of hydro-climatic services in the future.

1. Activity Leads

The Researcher Exchange was convened by the India-UK Water Centre (IUKWC) and led by the Activity Leads:

Dr. Meaghan Daly

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Managing Trustee
Watershed Organisation Trust
The Forum, 2nd Floor
Padmavati Corner, Satara Road
Pune, 411009, India

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The Researcher Exchange was held at the Watershed Organisation Trust in Pune, India.

2. Researcher Exchange Aims

Objectives of the Researcher Exchange

The India-UK Water Centre is based around five key cross-sectoral themes and aims to deliver a portfolio of activities across these themes. This activity focused on the theme of developing hydro-climatic services to support water security. This IUKWC Researcher Exchange was conducted to help address current gaps in knowledge about how user engagement can best facilitate the development of hydro-climatic services in India, drawing on experiences across research and practice in developing weather and climate services in other sectors. An output of this exchange is the consolidation of lessons drawn from applied research conducted in line with international efforts to develop climate services more broadly and grassroots implementation on the topic of stakeholder engagement for delivery of agro-climatic advisories in India. These lessons will be published in an accompanying IUKWC brief.

The first objective of this researcher exchange was to enable knowledge sharing about best practices and challenges that can be applied to stakeholder engagement in hydro-climatic services development. This is based on applied research on co-production of climate services (University of Leeds) and applied research and implementation practice in the field of watershed development, including development and implementation agro-meteorological advisories in Maharashtra state (WOTR). In addition, the WOTR Centre for Resilience Studies (W-CReS), conducts trans-disciplinary research to inform policy development, program design, and implementation, offering further opportunities for knowledge exchange. Second, the researcher exchange consolidated lessons from other sectors (e.g. agriculture, disaster management) to consider how such lessons may be adapted to the water resources management sector, with emphasis on community-based initiatives. Third, the researcher exchange promoted discussion about potential collaborations and future research trajectories that can usefully support the development of hydro-climatic services. An additional aim of this researcher exchange was to lay the groundwork for developing long-term, transdisciplinary research collaborations on the topic of stakeholder engagement within the development of hydro-climatic services in India.

In the longer term, an intended outcome of this researcher exchange is the development of research partnerships and approaches to inform the development of grounded, user-driven hydro-climatic services in the future. A final output of this exchange is the development of a briefing document to share lessons learned based on joint experiences with stakeholder engagement in other areas and to consider the implications of such lessons toward the development of hydro-climatic services in India.

3. Activity Structure

Description of Exchange Activities

This Researcher Exchange was conducted between 28 April–18 May 2017. The exchange enabled knowledge-sharing activities aimed at leveraging the comparative experiences of the visiting researcher and the host institution to consolidate learning, to identify existing challenges and gaps in knowledge, and to explore new research trajectories. This was achieved through one-on-one and group meetings with WOTR staff members who have been involved in various aspects of the organisation's adaptation programming, with specific emphasis on staff involved with programming related to agro-meteorology and provision of agrometeorological advisories, participatory water budgeting, and adaptation planning.

Several in-depth introductory meetings were conducted with the Executive Director (Dr Marcella D'Souza) and Managing Trustee (Mr Crispino Lobo) to learn about WOTR's decades of experience in the field of watershed development and about the variety of programmes being implemented by WOTR currently, including: water and other natural resource management, adaptive sustainable agriculture, climate vulnerability assessment and adaptive capacity enhancement, capacity building and training, women's empowerment, health, nutrition, and sanitation, renewable energy, livelihoods and economic activities, research, knowledge management, and policy engagement. Meetings also centred on the innovative methodologies employed by WOTR to assess vulnerability to climate change and how these inform programmatic and policy interventions. Other meetings were arranged with specific staff members focusing on programming areas that are of relevance to understanding WOTR's approaches to user engagement and how this relates to programming on the topics of agrometeorological advisories, participatory water budgeting, and adaptation planning.

In total, seven informational meetings were conducted with various WOTR staff teams during the course of the exchange. The exchange activities also included a trip to field sites in Ahmednagar (Darewadi, Kumbharwadi, and Gunjalwadi) to observe the practical implementation of WOTR's watershed development programs, as well as to learn about provision of agro-meteorological advisories, participatory water budgeting, and climate change adaptation programming. This included specific observation of various components of their agro-meteorological advisory service, including: delivery of agro-meteorological advisories through SMS text messages to mobile phones, use of community boards to deliver weather forecasts and other data from community-based ground water resource monitoring, and automated weather stations (AWS) and systems of monitoring and maintenance. A full day meeting was also conducted with various staff at the India Meteorological Department (IMD) Agrometeorology Division, hosted by Dr. N. Chattopadhyay, to learn more about agro-meteorological advisories currently provided by the department. This included detailed discussion of the downscaled block-level forecasts which have already been developed in partnership with WOTR, as well as the broader national advisory system that is currently in operation.

Figure 1: The field visit to Ahmednagar provided opportunities to observe the implementation of watershed development activities, such as continuous contour trenches that enhance infiltration of rainfall

Additionally, a half-day mini-workshop was organised during the research exchange. The workshop was hosted by WOTR at their offices in Pune. The purpose of the mini-workshop was to consolidate learning based on experiences developing climate services in other sectors, especially agriculture, to enable better understanding of the opportunities and constraints to the co-development of hydro-climatic services that are responsive to user needs, specifically for water resources management and use. A total of 17 participants attended the mini-workshop coming from WOTR, the IMD, the Indian Institute for Tropical Meteorology (IITM), Mahatma Phule Agriculture University–Irrigation, Drainage, and Engineering School, Maharashtra State Department of Agriculture, and the Groundwater Survey Development Agency. The mini-workshop included open and facilitated discussions, interactive table-top exercises, and brain-storming sessions to better define hydro-climatic services, to identify particular problems that hydro-climatic services may help to address, and to draw out practical lessons about user engagement within agro-meteorological service delivery to help rigorously inform the development of grounded, user-driven hydro-climatic services in the future (See Annex A for the mini-workshop concept note and agenda). The workshop concluded with a brainstorming session to identify key areas for future research needed to successfully develop hydro-climatic services in the future.

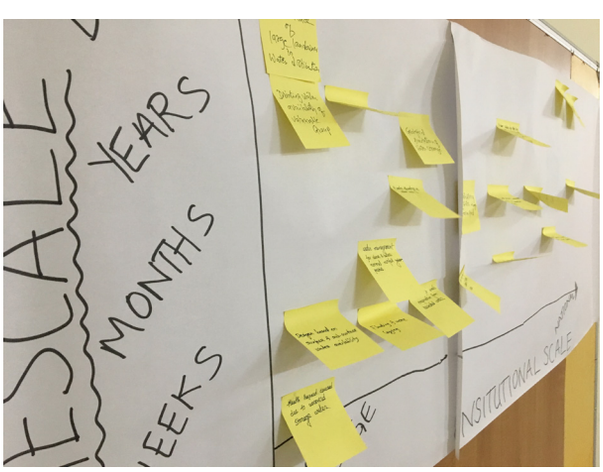

Figure 2: A total of 17 participants from governmental, non-governmental, and academic institutions took part in the mini-workshop, held at the WOTR offices in Pune. Participants took part in several interactive table top exercises, including an activity to develop a problem-based orientation to the development hydro-climatic services, considering problems across both temporal and institutional scales (pictured above)

4. Activity Conclusions and Outputs

Activities conducted during the exchange provided mutual opportunities to discuss lessons learned, as well as identification of entry-points and barriers, toward enabling effective stakeholder engagement in the development of hydro-climatic services in the future.

4.1. Key themes arising

This IUKWC Researcher Exchange enabled knowledge exchange and discussion of key issues of relevance to the development of hydro-climatic services in India. Hydro-climatic services are multi-faceted, and must simultaneously address a range of hydrological, climatological, social, economic, and ecological considerations. To ensure that hydro-climatic services are usable in practice, it will be essential to address the credibility, salience, and legitimacy among stakeholders. Lessons from international efforts to develop climate services, illustrate that in many cases, more emphasis is placed on the technical aspects of climate service delivery; however, there is also need to address issues around the relevance to decision-making and the legitimacy of information provided. Experience under a pilot to develop localised and tailored agro-meteorological advisories in Maharashtra show that it is possible to balance aspects around the credibility, salience, and legitimacy of climate information, which provide useful lessons for the development of hydro-climatic services in the future. Key lessons include:

- the need to work closely with stakeholders, to enhance the credibility and legitimacy of the processes of knowledge production and the hydro-meteorological services provided;
- the need to package climate information with other knowledge to enhance its relevance to specific decision-making contexts;
- the importance of building upon and integrating hydro-climatic services within existing institutions, decision-making processes, and knowledge bases;
- the landscape of ‘users’ and ‘producers’ of climate services is often complex, with many stakeholders playing multiple roles in the service delivery chain.

4.2. Conclusions and next steps

The Researcher Exchange provided a valuable learning opportunity. The exchange illustrated that there is a vast amount of experience in the field of agro-meteorological services, as well as experience in other sectors, that can help to inform trajectories in the development of climate services that are specific to hydrological issues. Such lessons illustrate the importance of building long-term relationships with communities, understanding the problem- and decision-contexts within which hydro-climatic services will be used, and the need to create enabling environments for the use of hydro-climatic services by pairing these with other livelihood development activities.

WOTR has worked side-by-side with communities for decades and is conducting research at the grass-roots level on issues of water management, sustainable economic development, and climate vulnerability and adaptation. In this way, WOTR plays a key role in facilitating practical interventions, as well as serving as a hub for research, learning, and knowledge exchange. Under the Centre for Resilience Studies (W-CReS), WOTR is already conducting transdisciplinary research studies that are critically examining the hydrological, climatological, social, economic, and equity dimensions of the use of climate information to better inform adaptation decisions in response to climate variability and change in the Mula-Pravara and Purna sub-basins. This data is currently being used to facilitate stakeholder engagement events at the block and district levels, but will soon be consolidated within multiple publications, which are expected to be finalised in late 2017. There is, thus, a valuable opportunity to incorporate the learning generated through these studies conducted by W-CReS within efforts to develop hydro-climatic services in the near future.

In sum, it will be important to continue to build linkages between NGOs, such as WOTR, and the climatological and hydrological communities to ensure that the multiple dimensions of hydro-climatic services, including hydrological, climatological, social, economic, ecological, and equity considerations, are comprehensively addressed in a sustainable manner. The mini-workshop illustrated that there is a great deal of interest in the potential of hydro-climatic services to play an important role in managing water resources in the future. It will be important to build on this to develop multi-disciplinary approaches and opportunities for collaboration toward operational hydro-climatic services in the future. This exchange also enabled preliminary exploration pathways for collaboration between WOTR and the University of Leeds, and this will inform efforts to explore additional opportunities for collaboration in the future. An accompanying IUKWC Brief summarizing the key thematic points arising from the Researcher Exchange can be found at www.iukwc.org.

Annexes

Annex A. Mini-workshop Concept Note & Agenda

Mini-workshop Concept Note

Date: Tuesday, 16th May 2017

Time: 10:00–13:00

Location: Watershed Organisation Trust
The Forum, 2nd Floor
Padmavati Corner, Satara Road
Pune, Maharashtra 411009

Objectives:

This mini-workshop is supported by the IUKWC and seeks to draw out learning based on experiences developing climate services in other sectors (e.g. agriculture, disaster management). Consolidating these lessons can enable better understanding of the opportunities and constraints to the co-development of hydro-climatic services that are responsive to user needs for water resources management and use. This mini-workshop will include open discussions, brain-storming sessions, and interactive table-top exercises to draw out practical lessons to help rigorously inform the development of grounded, user-driven hydro-climatic services in the future

This mini-workshop will explore several topics of relevance to the development of hydro-climatic services, including:

- Discussion of elements similar / different / particular to hydro-climatic services & implications for user engagement
- Identification of gaps in research & practice toward co-production of hydro-climatic services
- Identification of new research needs & trajectories toward development of hydro-climatic services

This mini-workshop will consolidate lessons and ideas about how to move forward with the co-production of usable hydro-climatic services. The discussions will build off of and consolidate learning gained through user engagement within the provision of agro-meteorological advisories (e.g. through the Watershed Organisation Trust (WOTR), India Meteorological Department (IMD) and other research and governmental partners), as well as research-based experience in developing climate services within other regional and global programs, to define specific opportunities and needs for the development of hydro-climatic services.

About the IUKWC:

This mini-workshop is conducted as part of a Researcher Exchange between the University of Leeds, UK and the Watershed Organisation Trust (WOTR). The Researcher Exchange is supported by the India-UK Water Centre (IUKWC). The IUKWC is a virtual joint centre established in 2016 and funded by the Indian Ministry of Earth Sciences (MoES) and the UK's Natural Environment Research Centre (NERC). The IUKWC is hosted jointly by the Indian Institute of Tropical Meteorology (IITM) and Centre for Ecology & Hydrology, UK (CEH) and on behalf of NERC and MoES. More information, including details about Research Exchanges and other opportunities, is available at: www.iukwc.org.

Day 1–16th April 2017

Time	Agenda item
09:45	Registration
10:00	**Welcome & Introduction to the Mini-workshop:** - Crispino Lobo, Watershed Organisation Trust - Priya Joshi, India-UK Water Centre - Meaghan Daly, University of Leeds
10:30	**Open Discussion:** Defining Hydro-climatic Services
11:00	Tea Break
11:15	**Interactive Table Top Exercise:** Identifying Entry Points for Inclusion of Hydro-climatic Information and Services
11:45	**Open Discussion:** Consolidating Learning from Provision of Agro-met Advisories & Identifying Needs / Challenges for Co-production of Hydro-climatic Services
12:30	**Brainstorming Session:** Identifying Other Knowledge Required for Production of Hydro-climatic Services & New Research Trajectories
13:00	**Conclusion:** Summarising mini-workshop conclusions and break for lunch

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