

Regional Workshop

on

Assessing Drought Risks using Earth Observation Data

&

Launch of South Asia Drought Management System (SADMS)

Utility of SADMS tool for operational drought decision support across South Asia

31st August to 2nd September, 2022 at SDMC (IU), Gandhinagar

PROGRAM NOTE

Background

Drought is one of the most threatening natural hazards due to its creeping and invasive nature, which proliferates existing systemic vulnerabilities, creates new risks and consequentially manifests as multi-dimensional hindrances to the objective of sustainable development. South Asia has faced several droughts in recent decades and 50 major droughts have been reported since 1990, affecting over 750 million people with economic damages estimated at 7 billion USD. The 6th Assessment Report of IPPCC underlines the probability of interannual variability in precipitation at the regional level (SAS), which may lead to droughts locally, especially in the arid and semi-arid areas of India, Pakistan, and Bangladesh. Being able to accurately identify and monitor drought is, therefore, of considerable importance. Monitoring the severity and impact of drought is of critical importance to policy makers for effective drought risk mitigation and management, which would in turn improve food security and enhance livelihood among smallholder farmers.

Drought risks can be reduced by reducing vulnerabilities which exacerbates the effects and impacts of drought conditions or by enhancing coping capacities like taking preventive measures at the sub-national or local levels. Although disaster risk management is everyone's business, efficient drought risk management heavily depends on the local agencies and authorities, as it involves multiple administrative, economic and political factors. Authorities are expected to draw drought risk management plans that encompasses scientific declaration of droughts, response and relief and most importantly, building forward better with an objective of mitigating future impacts.

Much of the drought management system is dependent on station-wise weather data which is used to derive meteorological drought indices for drought monitoring and early warning. Using these well-established warning systems based on various drought indices, forecasts are made based on the socio-economic conditions. But, due to the sparse meteorological network and lack of timely availability data, accurate and timely monitoring of regional drought is hindered.

Need of the workshop: Introduction to SADMS

The proposed workshop will discuss how earth observation and meteorological data along with ground data can be used to assess drought risks well in time, provide early warning by leveraging the South Asia Drought Monitoring System (SADMS) developed by the International Water Management Institute.

South Asia Drought Monitoring System

With the emergence of satellite technologies in early 2005, IWMI in collaboration with US OFDA established the first regional drought monitor for Southwest Asia covering the countries of Iran, Pakistan, and the Western States of India to promote regional capabilities and access to knowledge products on drought severity for timely action on agriculture risk management. Following the success, IWMI was supported by the Integrated Drought Management Programme (IDMP) led by WMO/GWP to promote three pillars of drought risk management at regional to sub-national levels including South Asia. Since 2017, SADMS was supported by the Indian Council of Agricultural Research (ICAR), Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF), and CGIAR Water, Land and Ecosystems (WLE) on broader areas of drought resilience initiatives ranging from monitoring and early warning system, agriculture contingency plans, vulnerability assessment, and climate adaptation measures in rainfed and irrigated systems and importantly capacity-building efforts in South Asia. IWMI was supported with World Bank to implement near real-time drought early warning decision support tool (AF-DEWS) and this is being used successfully among drought management institutions in Afghanistan.

SADMS platform is a unique and innovative solution that brings all the components ranging from Weather and Climate (Seasonal, sub-seasonal and weather forecast for 7days), drought management (near real-time drought monitor using multisource satellite data; defining mandatory and impact drought indicators to alert contingency plans), agriculture contingency plans and user-specific drought decision support tool to determine drought to support national agencies for drought mitigation measures including drought declaration efforts. Further, the SADMS platform provides country-specific APIs to access and integrate into their respective platform for monitoring capabilities and strengthening the capacities in the region. The new SADMS platform also offers user-specific drought bulletin to produce based on their choices and needs for timely dissemination.

Workshop objectives

The overall objective of the workshop is to introduce the South Asia Drought Monitoring System (SADMS) to the key stakeholders of South Asian countries through a two days' workshop to -

- Discuss technical advances and challenges in using earth observation to help assess and monitor drought risks
- Orient the participants to the South Asia Drought Monitoring System (SADMS) platform
- Explore the current capabilities of SADMS in drought monitoring and early warning
- Explore possibilities of institutionalizing the SADMS at sub-national levels of the SAARC Member States and promote multi-institutional collaboration to manage drought risks.

Participants

Participants from key agencies / departments like

- Meteorology or Space Affairs
- Agriculture
- Irrigation
- Revenue
- Disaster management

of the SAARC Member States would be invited to participate in the proposed workshop.

Expected outcome

The expected outcome of the proposed workshop is as follows:

1. Orientation of SADMS to the participants
2. Assessment of the efficacy and usability of the tool by relevant stakeholders from the SAARC Member States
3. Discussions on how to institutionalise SADMS or similar platforms (country-specific) for better management of drought risks
4. Discussions on how to foster inter-agency collaboration amongst SAARC Member States for effective management of South Asian droughtscape.

Organising partners

The workshop will be organized by SDMC (IU) with support from CGIAR/IWMI, Indian Council of Agricultural Research (ICAR) and UNOOSA.

Tentative Date & Venue

The workshop is proposed to be organised at SDMC (IU), Gandhinagar on 31st August to 2nd September, 2022.