SAARC
SAARC Disaster Management Centre (IU)

NEWS LETTER

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CONTENT

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Director's Message

Dear Reader,

It has almost been more than 7 years when 187 countries adopted the 'Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR)' at the Third World Congress on Disaster Risk Reduction at Sendai, Japan in 2015, making it the first major agreement of the post-2015 development agenda to serve as a global reference for reducing disaster risks around the world in the future. As we reach the halfway point in the implementation of SFDRR, while we have witnessed significant progress in efforts to reduce disaster risks around the world, there is still much that needs to be done to meet the goal and targets in order to get ahead of disasters, safeguard sustainable development and thereby achieve resilience. However, the road to resilience is not easy. With the world still recovering from the unparalleled loss caused by the pandemic and climate change being declared as 'code RED' for humanity, we need to move from managing risk to managing uncertainty. The year 2022 has already witnessed unprecedented and uncertain spell of extreme heatwaves and variability observed in distribution of monsoons causing spates and drought in SAARC region.

Further, hot season arrived unusually early this year and extended into April, affecting a large part of India's northwest and Pakistan. Both countries are now at the forefront of climate change's worst impacts, such as extreme weather events, maximum temperatures and heat waves and will have to make bold choices. The rest of South Asia can't remain indifferent, as the soaring temperatures in both countries signal that more global warming impacts will come for the region. Heatwaves have been particularly proven risky in Bangladesh due to the high moisture content of the air as high moisture levels inhibit the body's natural cooling system. Bhutan recorded historically the highest temperature of 38.5^{0}C this year leading to visible productivity losses. In addition to catastrophic spells of heatwave, the SAARC region particularly India, Pakistan & Sri Lanka witnessed extreme rainfall which led to the rivers destroying its banks and leading to flash floods. Nepal also faced severe drought like situation as the total rainfall recorded was just around 50% despite normal forecast. Further, we all know that how Maldives is slowly being inundated by the sea.

At SDMC (IU), we have been encouraging the Member States to take the issue of climate change as a priority. We have conducted programs and workshops catering the need and strategies for redesigning of cities, energy systems and water resources to be consistent with climate-resilient development pathways. Also, there is need to have a greater focus on combining grey infrastructure projects with "nature-based solutions", which are currently "under-recognized and under-invested" despite being more affordable and flexible. In the current issue of biannual newsletter we have tried to cover details of activities carried out by SDMC (IU) in past months. I hope the content here will be insightful to the readers.

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Fostering Dialogue for Accelerated Action in the SAARC Region, APMCDRR-2022

SDMC (IU) participated in Asian Ministerial Conference on Disaster Risk Reduction (APMCDRR) 2022 at Brisbane. During the conference, a consultation session on 'Fostering Dialogue for Accelerated Action in the SAARC Region' was hosted and conducted as a side-line event in a hybrid mode. The session was moderated by Director, SDMC (IU) and was attended by officials and representatives of National Disaster Management Organisations (NDMOs) from the SAARC Member States.

With more than seven years into the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, the region has achieved positive results across a number of areas. Capacities to manage disasters have increased through strengthened prevention, preparedness and response efforts. Underpinning the progress of cutting the average annual number of dead and missing persons attributed to disasters by 60 per cent has been a better understanding of risk, a stronger approach to risk governance (including in terms of integration and inclusion), increased and smarter investments in disaster resilience and better preparedness and response, particularly in terms of early warning and early action.

However, the strive to build resilience in the region is a continuous process and needs to be reviewed, discussed and debated upon, in light of the evolving context of fragilities and uncertainties. Taking this in cognizance, the original programming pillars have been re-envisioned and re-strategised in accordance with ongoing global and regional needs as follow:

Through the consultation session it was aimed to brief the representatives from the Member States on the re-envisioned thematic pillars and the associated perspective Plan of Action for the SAARC region and detail out the areas of engagements. The agenda also included to brief the representatives from the Member States about the expected outcomes within each of the thematic pillars and receive comments and feedbacks.

The consultation session was successful to establish consensus on the overall perspective plan of Action for the SAARC region. During the consultation session, Director-SDMC (IU) requested the delegates from the Member States to communicate their comments/ inputs on the Perspective Plan for Action and assured all that the necessary interventions will be taken considering the benefits of all the SAARC Countries.

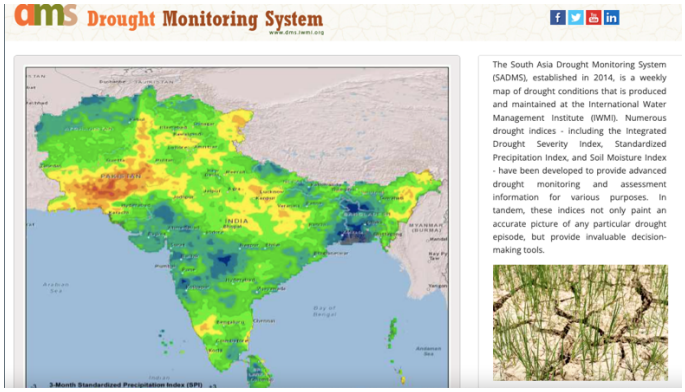
Workshop on Assessing Drought Risks using Earth Observation Data

SDMC (IU) with support from CGIAR/IWMI, Indian Council of Agricultural Research (ICAR) and UNOOSA organized a Workshop on Assessing Drought Risks using Earth Observation Data & Launch of South Asia Drought Management System (SADMS) on 31st August to 2nd September, 2022.

The overall objective of the workshop was 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.

The workshop discussed 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.

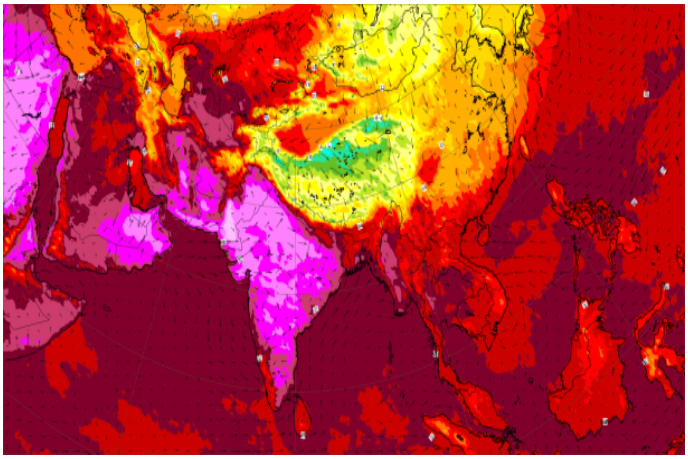
The Workshop was attended by participants from key agencies and departments like Meteorology, Space Affairs, Agriculture, Irrigation, Revenue, Disaster management of the SAARC Member States. They were introduced to SADMS to discuss technical advances and challenges in using earth observation to help assess and monitor drought and explore possibilities of institutionalizing the SADMS at sub-national levels of the SAARC Member States and promote multi-institutional collaboration to manage drought risk.



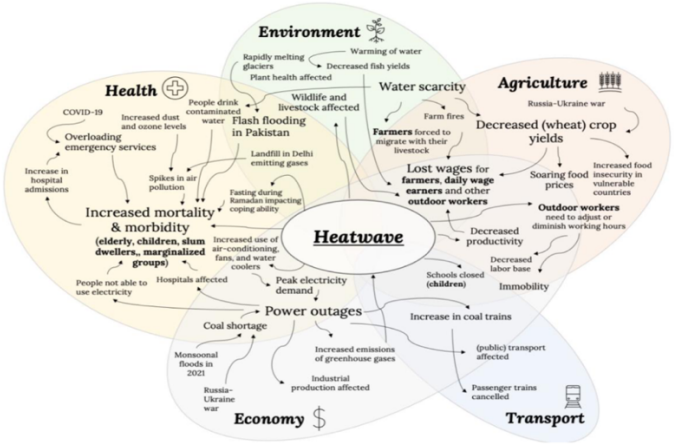
SADMS is aimed at addressing the existing and potential challenges to drought management and at providing a framework for proactive drought mitigation measures across nations in South Asia. SADMS incorporates multisource information namely access to real-time weather updates and open-access satellite data that provides farmers, extension workers and agriculture and water resources authorities with all the information needed to forecast, monitor and manage drought. Specifically, it provides seasonal, sub-seasonal and seven-day weather forecasts; monitoring tools to indicate when drought is present and, if so, the level of severity; and district-level agricultural contingency plans that can be put into action if the system indicates that triggers have been reached. The system, which covers Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka, incorporates national- to regional-level datasets drawn from multiple satellites, observed data and other sources.

Climate change made India and Pakistan's 2022 early heatwave '30 times more likely'

The extreme heat that gripped much of India and Pakistan was made 30 times more likely due to climate change. March 2022 was the hottest in India since records began 122 years ago and in Pakistan, the highest worldwide positive temperature anomaly during March was recorded and many individual weather stations recorded monthly all-time highs through March. At the same time, March was extremely dry, with 62 percent less than normal rainfall reported over Pakistan and 71 percent below normal over India, making the conditions favorable for local heating from the land surface. The heatwave continued over the month of April and reached its preliminary peak towards the end of the month. By the 29th of April, 70 percent of India was affected by the heatwave. While heatwaves are not uncommon in the season preceding the monsoon, the very high temperatures so early in the year coupled with much less than average rain have led to extreme heat conditions with devastating consequences for public health and agriculture. (World Weather Attribution Study, May 2022).



The full health and economic fallout, and cascading effects from the current heat wave will however take months to determine, including the number of excess deaths, hospitalisations, lost wages, missed school days, and diminished working hours. Early reports indicate 90 deaths in India and Pakistan, and an estimated 10-35 percent reduction in crop yields in Haryana, Uttar Pradesh, and Punjab due to the heatwave. The early and prolonged heat particularly affected the North West of India and Southern parts of Pakistan, the so-called bread basket of the subcontinent. Towards the end of April and in May the heatwave also reached more coastal areas and the Eastern parts of India. It was however the early, prolonged and dry heat that made this event stand out as distinct from heatwaves occurring earlier this century. (World Weather Attribution Study, May 2022). Conceptual Map of Impact Pathways During the Heatwave developed by World Weather Attribution is as follow:



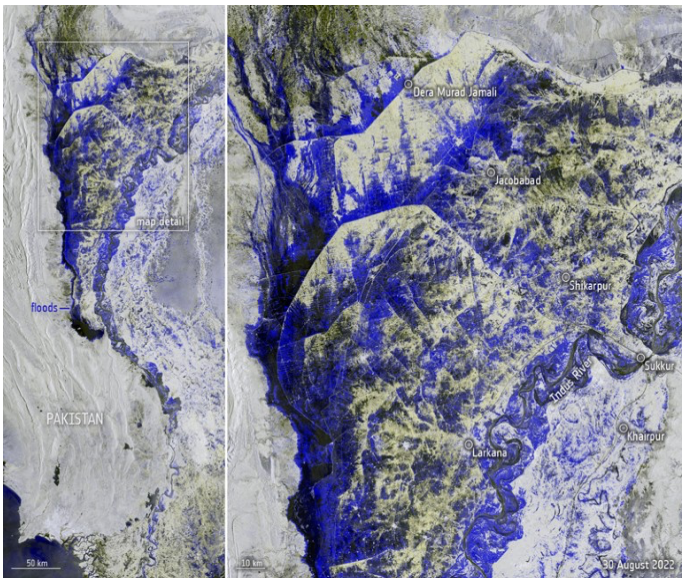
The Intergovernmental Panel on Climate Change, in its Sixth Assessment Report, said that heatwaves and humid heat stress will be more intense and frequent in South Asia this century. The heat wave occurred mostly during the final weeks of the wheat growing season, killing the plants shortly before harvest. The heatwave strongly impacted agriculture in India. At the same time early rainfall in India was 71% lower than the norm. In Punjab, the main crop producer in India, 15% of the harvest was lost and in some regions even 30%. The heatwave has also severely impacted peach and apple harvests in Baluchistan. The heatwave has resulted in birds falling from the sky in Gujarat. The Hassanabad Bridge in Hunza Valley, Pakistan collapsed after a glacial lake released large amounts of water into a stream caused by the heatwave. Scorching temperatures force early closures of schools and send people indoors. Rajasthan, Gujarat, and Andhra Pradesh have all reduced power allocated to industry due to an

increase in power consumption dedicated to cooling. The high power demand has increased demand for coal in India, which is the main source of electricity generation in the country.

Anatomy of Pakistan's 2022 Floods

Pakistan experienced one of the worst floods in the country's history in 2022. Heavy monsoon rains affected more than 33 million people causing around one-third of the country's land mass submerged under water. The crisis is considered as the world's deadliest flood since the 2020 South Asian floods and described as the worst in the country's history. On 25 August, Pakistan declared a state of emergency because of the flooding.

The government of Pakistan has estimated losses worth US$40 billion from the flooding. As per the report compiled by the World Weather Attribution (WWA) group and released by the International Federation of Red Cross and Red Crescent Societies (IFRC), in August, Pakistan received more than three times its usual rainfall, making it the wettest month since 1961. As a result, the Indus River, which runs the length of the country, burst its banks across thousands of square miles washing away crops, livestock and critical infrastructure. The flooding affected over 33 million people, destroyed 1.7 million homes and killed more than 1,300 people. According to the IFRC, the floods exacerbated existing socioeconomic vulnerabilities within the country. According to the report, extreme rainfall in the region has increased 50–75% and some climate models suggest this increase could be entirely due to human-caused climate change, although there are considerable uncertainties in the results. The Satellite images below reveals the extent of the flooding in Pakistan. (Credit: Copernicus Sentinel data -2022).



It is believed that the catastrophe probably started with phenomenal heatwaves. In April and May, temperatures reached above 40 °C for prolonged periods in many places. Warmer air can hold more moisture. So meteorologists warned earlier that the extreme temperatures would probably result in "above normal" levels of rain during the country's monsoon season, from July to September. The intense heat also melted glaciers in the northern mountainous regions, increasing the amount of water flowing into tributaries that eventually make their way into the Indus rive. Human-induced global warming could also be intensifying downpours. Climate models suggest that a warmer world will contribute to more intense rainfall. Between 1986 and 2015, temperatures in Pakistan rose by 0.3 °C per decade — higher than the global average.

Increase Severity of Nepal Droughts

Nepal faced severe drought like situation as the total rainfall recorded was just around 50% despite normal forecast. Drought frequency, duration, and severity has

increased in the recent decade in Nepal. The frequency of short-term drought has elevated by 15%, 17%, and 15% in Western, Central, and Eastern regions, respectively, during 2005–2017 compared to 1987–2004. Moreover, the interdecadal increase of drought characteristics has become prominent after 2004, with aggravated and prolonged drought episodes. summer drought events have increased five times in the Central region, two times in the Eastern Region, and no changes were observed in the Western region after 2004. The large-scale atmospheric circulations leads to negative summer precipitation anomalies due to weakening wind anomalies with anti-cyclonic circulation and moisture divergence over the Indo-Gangetic plain and Nepal, respectively, which has led to enhanced drought after 2004. Furthermore, the moisture transport from the Arabian Sea and the Bay of Bengal to the region is weaker, resulting in more drought events, especially in the Central and Eastern regions.

Rising sea levels and the climate crisis in Bangladesh, Maldives, and Sri Lanka

According to the World Bank, during the past decade almost 700 million people–half of South Asia's population–were affected by climate related disasters such as droughts and floods. These compound the preexisting issues relating to poverty and social inequalities. It is thus imperative that climate adaptation policies take utmost priority in governmental legislation. In particular, Bangladesh, Maldives, and Sri Lanka have many low-lying areas which are among the foremost regions bearing the brunt of climate change due to rising sea levels. The impacts of climate change are already slowing Maldives' and Sri Lanka's economic growth by degrading natural assets and resources that are critical to the competitiveness of key sectors and livelihoods.

Early Warning for All

As per the report on 'Global Status of Multi Hazard Early Warning Systems - Target G' released jointly by UNDRR and WMO, only half the world equipped with adequate early warning systems and the countries with limited early warning coverage have mortality rates during disasters, that are eight times higher than countries with substantial to comprehensive coverage. The report was released on 13 October 2022 which coincided with the International Day for Disaster Risk Reduction (IDDRR 2022). The IDDRR 2022 focused on Target G of the Sendai Framework: "Substantially Increase the Availability of and Access to Multi-Hazard Early Warning Systems and Disaster Risk Information and Assessments to People by 2030." With extreme weather events becoming increasingly common, early warning systems which cultivates disaster and risk-aware communities for early action remain a powerful catalyzer of climate adaptation and disaster risk reduction. IDDRR 2022 presented an opportunity to acknowledge the progress being made towards preventing and reducing disaster risk and losses in lives, livelihoods, economies, and basic infrastructure. As natural hazards become more challenging to cope with, it is not enough for early warning systems to correctly identify an incoming hazard, but must also be people-centered, ensuring that the populations and sectors that are at risk can receive the alert, understand it, and most importantly, act on it.

#EarlyWarningforAll

India-Maldives MoU on Disaster Management

The National Disaster Management Authority of India and the National Disaster Management Authority of the Republic of Maldives have signed an Memorandum of Understanding (MoU) on cooperation in the field of disaster management. The MoU seeks to put in place a system, whereby both India and the Maldives will be benefited from the disaster management mechanisms of each other and it will help in strengthening the areas of preparedness, response and capacity building in the field of disaster management. Both the countries will extend mutual support on the request of each other in the time of large scale disaster incident occurring within its territory, in the field of emergency relief, response, and humanitarian assistance.

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For more information, visit http://saarc-sdmc.org/