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**Proceedings\***

**Proceedings of the Closed door meeting  
On  
Regional dialogue for Open Science in South Asia**

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\*These proceedings are prepared based on inputs from the participants of the closed door meeting organized alongwith the OSSAN'22 conference hosted by DST-CPR-IISc on 8th September, 2022.

## Introduction

Open science is an emerging concept that aims to bridge the science and society gap by enabling better access to scientific research and data to an enquiring community. It encompasses a variety of practices, including open access to research articles, open research data, open educational resources, open source software and hardware, access to digital and physical research infrastructure, responsible research evaluation, and citizen science.

Open science aims to improve access to knowledge and data and make it easier for scientists to share their work and for others to build upon it. Open science advocates for better transparency and accountability of the scientific process. It seeks to foster more collaboration and cooperation among the stakeholders. The goal of open science is to make scientific knowledge more widely available to the public, to help people better understand the world around them, and make informed decisions based on evidence.

Open science is a response to the several limitations of the scientific ecosystem. The high cost of accessing research articles due to the oligopolistic control of commercial publishers over scientific publishing tops the chart. Lack of access to data and methods, ignoring the negative results over the emphasis on positive outcomes, and replication crisis- many scientific findings have been found to be unreliable and impossible to reproduce, are some of the other flaws adding to the fallibility of science.

Open science is particularly important for low and middle-income countries (LMICs), including south Asia, because it can help address some of the challenges that these countries face regarding access to research and scientific knowledge.

One of the main barriers to scientific research in south Asia is the lack of access to funding and resources. Open science practices, such as open access to journal articles and data, can help to reduce the costs associated with accessing and using scientific research, making it more affordable for researchers in south Asian countries.

In addition, open science can promote collaboration and knowledge sharing between researchers in the region. This can help to build capacity and expertise and facilitate the transfer of knowledge and technology among south Asian countries. Adopting open science practices can promote better quality research and ultimately create a positive impact on society.

Open Science practices are still in the early stages of adoption in the South Asian region, and there are significant digital, technological, and knowledge divides within and between South Asian countries. Adopting open science practices holds great promise for the region's STI ecosystem, but it also presents numerous challenges, including the development of open science policies, investment in open science infrastructure, the transformation of scientific culture and incentives, and capacity building.

OSSAN aims to initiate dialogue among the scientific community in South Asia to bring tangible policy outcomes for an open science framework in South Asia. The expert meeting was organised to collate the views on how OSSAN can take its vision forward in enabling open science in south Asia.

## Closed door meeting on the need of regional dialogue on Open Science

The lack of awareness on open science in the South Asian context, scarcity of regional dialogues and cooperation on open science between the South Asian countries and other regions of the world, indicates the untapped potential in this region. It may be assumed that the facilitation of spaces for such exchanges could unleash synergies and innovations in this area.

In this context, DST-CPR undertook the project Open Science South Asian Network 2022 and organised the OSSAN'22 conference from September 5th to 7th, 2022 to deliberate upon open science aspects such as open access, open data sharing, democratisation of science, open hardware, etc. science. Along with the conference, a closed door meeting was organised on September 8, 2022 to initiate a regional dialogue on open science.

The participants of the closed door meeting were different stakeholders, including the leading researchers leading open science advocates of South Asia region, social scientists, government officials, policy analysts, NGO and science academy representatives (See the list of participants on page 5). The discussion on various aspects of Open Science has provided many important points that are listed below.

### Objectives Outlined for the Meeting

- Discuss action plans to build awareness about open science as an important global agenda among the researchers of South Asia.
- Discuss provisions to provide spaces for dialogue, knowledge exchange, and training among institutions, professionals, and experts from South Asia

- Discuss the process to enhance bi-regional dialogue among South Asian countries and cooperation on Open Science as a key pillar of multi-regional dialogue and cooperation in this field.
- Collect proposals from institutions and experts regarding tools, technical solutions, and practices relevant to the different regional and national contexts to help make Open Science and other similar recommendations effective at the regional and national levels
- Discuss dialogue to Actions: Facilitation of access to research data, access to advanced research infrastructure; cooperation and collaboration among the regional actors in frontier areas of STI.

### Challenges for Open Science in SA region:

- **Lack of collective negotiation with publishers:** Individual institutions and different countries would be obliged to pay exorbitant fees for open access publication in the absence of collective bargaining, thereby putting a substantial strain on their limited resources. As a result, access to academic research gets restricted, especially for researchers in underdeveloped nations, which might impede the growth of scientific knowledge. Furthermore, a few prominent publishers control the majority of the academic publishing market and frequently hold a monopoly on scholarly journals and other publications. This makes it challenging for various organisations and nations to bargain with these publishers on an equal footing.
- **Failure of traditional OAS:** There is a lack of discussion on the need to identify the mechanisms of OAS, including who pays and who gets paid and whether OAS should be profit or non-profit based. Traditional mode

- of OAS is not serving the purpose as when academies partner with commercial publishers, it is not really OAS. For example, if papers are not readily available through the academy's website and need to be accessed through commercial publishers such as Springer, it is not truly OAS.
- **Lack of Coordination among SA:** There is a significant disparity among South Asian countries in accessing knowledge. As economic situations across SAARC countries are not the same and hence this requires reasonable consideration therefore on how we collaborate. The differences amongst SA nations also affect initiatives for collective bargaining with publishers.
- **Lack of gender parity in Research:** Gender disparities in research have been a persistent concern for decades. Despite recent improvements, women continue to be disproportionately underrepresented in academic research roles and face several obstacles to promotion. This discrepancy not only restricts the potential of capable female researchers but also denies the scientific community valuable ideas and points of view.
- **Over emphasis on IF:** The greater a journal's Impact Factor, the more prestigious it is perceived to be. Due to this conventional outlook, many academics and institutions now place great importance on publishing in high-impact Open Access journals, which is fuelling the ever increasing APC. This may impede the accessibility of significant research by increasing the time and cost required for institutions and researchers to publish in high-impact open access journals.
- **Inaccessibility due to high APC:** It was noted that societies that hand over their journals to commercial publishers end up making them inaccessible in the long-term due to the costs associated with accessing them.

- **Lack of resources for Journal subscription:** The challenges faced by universities and research institutions in India with respect to accessing journals, particularly due to the high cost of Article Processing Charges (APCs) and libraries not being equipped to subscribe to expensive journals.

## Initial solutions by participants

- **Collective negotiations with publishers:** It was discussed whether to work with mainstream publishers and how to bargain for better OAS frameworks, either as individual nations or as a collective of SA countries. Much emphasis was put on an initiative for collective negotiations of SA countries or regionally which can be effective to bring down the Article Processing Fees (APC). To address the difficulty in such initiatives due to the disparities in resources and priorities among the countries, it was suggested that South Asian countries could join hands with organisations such as TWAS, which have overlapping priorities, and engage in dialogue to find a way forward.
- **Alternate model of Open Access for SA:** In an attempt to understand alternative ways to attain open access, it was suggested that instead of bargaining with international journals, resources should be channelized to strengthen their own regional journals. Indian academies' alternative model of publishing OA was emphasised where a certain subsidy is provided by the Government of India to make OA available for free to both authors and readers. Emphasis and value should be given to national journals, such as NISCPR publishing Open Access (OA) articles free of cost (RD). Encouragement of local cooperation was also suggested to access papers directly from the authors. Another alternative way to attain OA discussed was the option of retaining the journal mode, which could lead to a SA journal. However, it was noted the need for a different mode through which to perceive and rank these journals.

- **Coordination between SA countries:** To address the issue of lack of coordination among SA countries, it was discussed whether to involve only SA countries in the journal mode or extend it to BRICS/ASEAN/Global South. It was suggested that facilities should be made open for use and accessible across institutes and across the South Asian Association for Regional Cooperation (SAARC) on minimal payment. It was emphasised that the commonality of culture and geopolitical situation in the SA region may be useful for all academies to come together and produce programs on women in science and inclusion in the OS framework. The need to enhance student/faculty exchange within SA countries, which would be mutually beneficial was also suggested.
- **Promote preprint servers:** Noting the relevance of preprint servers, it was suggested that not to retain the journal mode and instead utilising existing preprint servers or setting up preprint servers for the SA collective, which could be extended to the Global South. It was also suggested that preprint archives should be promoted, and resources should be pooled together to share pre-prints from each funding agency/instt.
- **Gender Equality and inclusivity:** The importance of gender parity in OS and how gender equity in science impacts inclusivity in the knowledge generation process was discussed. The discussion noted that "who we are impacts the science we do." It was emphasised that the process of inclusion is not just for the benefit of underrepresented groups but also to improve the overall quality of science. It was recognized that gender equity in science impacts inclusivity in the knowledge generation process. It was discussed that the process of inclusion is not only for the benefit of underrepresented groups, but it can also improve the overall quality of science.

- **De-emphasize Impact Factor:** It was recognized that the overemphasis on Impact Factor is one of the causes of high costs of OAS. To solve this issue, it was suggested that a mindset change is required, and meaningful changes to assessment are necessary in their context.
- **Prioritising regional needs:** Even OS is a global issue and multiple overlapping priorities need to be discussed on a global stage. However, it was highlighted that the specific challenges, opportunities and priorities are different at different regional levels. Therefore it was suggested that there is a need for regional dialogues to address regional specific challenges.
- **Common policy for OAS:** It was suggested that there should be common policies to support the access of journals through a common platform.
- **Emphasis on ORD and archives for data sharing:** It was suggested to promote sharing Open Research Data (ORD), making use of open-source software and tools, and encouraging the use of open educational resources. On Individual effort, researchers should be willing to share the manuscript and Open Research Data (ORD). The extensive use of Archives was also suggested.

### Concluding remarks:

The closed door meeting on the need for regional dialogue on open science was a valuable opportunity to discuss the potential and significance of an Open Science Network across South Asian countries. From the discussion, it was evident that even though the open science movement has the potential to accelerate scientific progress, improve the quality of research, and make research more inclusive, there are regional as well as global challenges that need immediate attention for efficient promotion of Open Science in the SA region. There is a need of a coalition Open Science network among SA countries to facilitate the

promotion open access to research data and publications, facilitate collaboration between researchers, raise awareness of open science practices, and provide training on open science tools and method and, the discussion also provided an tangible action plan to develop the network through a combination of government funding, institutional support, and private donations.

It was highlighted that the network will be a valuable resource for researchers in the region and will help to accelerate scientific progress, improve the quality of research, and make research more inclusive. There are major roles of actors like institutions, science academies, government agencies, and international agencies in promoting open science. This proceeding is a first step in a larger process of consulting with a variety of stakeholders to discuss how to promote and implement Open Science mandates throughout the South Asian region. We hope that this dialogue will lead to concrete actions that will make Open Science a reality in the region.

## List of Participants in the Meeting

- **Prof Amitabh Joshi**, Professor and Chair, Evolutionary & Organismal Biology Unit, JNCASR. Editor-of-Publications, Indian Academy of Sciences (2017-2021).
- **Prof Anura Wickramasinghe**, Secretary Foreign Affairs, National Academy of Sciences - Sri Lanka, Sri Lanka
- **Prof Bishal Nath Uprety**, Academician, Nepal Academy of Science & Technology, Nepal
- **Mr Euan Mackway-Jones**, Head of Unit and Programme Specialist at UNESCO
- **Dr Lena Robra**, Head of Academic Engagements, Swissnex India
- **Ms Lizzie Sayer**, Senior Communications Officer, International Science Council
- **Prof Madhoolika Agarwal**, Hony. General Secretary, National Academy of Sciences, India
- **Prof. Mohammed Abdul Basith**, Professor in the Department of Physics of Bangladesh University of Engineering and Technology (BUET), Dhaka and President of the National Young Academy of Bangladesh.
- **Prof Namal Priyantha**, General Secretary, National Academy of Sciences - Sri Lanka, Sri Lanka
- **Prof Navakanta Bhat**, Dean, Division of Interdisciplinary Research, Indian Institute of Science (IISc), Bengaluru
- **Prof Rajender Dhaka**, President, Indian National Young Academy of Sciences, India
- **Prof Rohini Godbole**, Vice-President, Indian Academy of Sciences, India
- **Prof SC Lakhota**, Indian National Science Academy, India
- Prof Umesh Waghmare, President, Indian Academy of Sciences, India
- **Prof Zahurul Karim**, Vice-President, Bangladesh Academy of Science, Bangladesh

Modertaor of the meeting:

- **Dr. Anindita Bhadra**

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