

Editorial

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As reported in this Journal in 2018, the fourth IndiaLICS International Conference and Training Workshop was held in November 2017, having a thematic focus on “Innovation for Sustainable Development: Perspectives, Policies and Practices in South Asia”.^[1] The IndiaLICS is the India chapter of the Globelics, an international network of scholars who apply the concept of Learning, Innovation and Competence Building System (LICS) as a framework for promoting inclusive and sustainable development in developing countries, emerging economies and societies in transition. IndiaLICS engages in and pro-actively promotes the domestic and global exchange of scholarship in innovation systems and the translation of innovation to development outcomes. The Conference aimed to be multidisciplinary in its approach by including scholars, innovators, practitioners and members of the development or civil society organisations.

The IndiaLICS event was organised under two parts; an international conference spanning three days and a training workshop spanning two days. This international Conference drew a number of advanced researchers, early career researchers and doctoral scholars who made significant contributions to the Conference as the keynote speakers, paper presenters and discussants. The notion of their engagement was to realisations over perspectives and role of innovations in impacting economies and societies at the macro, meso and micro levels that calls for a serious rethink on national, regional and sectoral innovation systems in India. The Conference also attempted to understand the interrelationships between diverse stakeholders of science, social-economy and democracy. A common concern that underscored this debate was on innovative governance of access and use of resources (particularly natural) to ensure

the broad-basing of sustainable production, consumption and conservation.

There were around forty research papers presented during the conference, including keynote papers. Papers selected for presentation was based on peer review evaluation of extended abstracts submitted. Overall, there were around forty percent of the submitted abstracts selected for presentation at the conference. Although the focus was on India, papers covered varied lessons from other developing and developed countries with a comparative perspective. Innovation systems research per se has evolved to become a critical reflexive area of research in innovation studies bringing in the perspective from a wide cross-disciplinary engagement of scholars in different fields. This has given a new dynamism and richness to the theoretical and conceptual framework and methodologies in innovation systems research. This richness was visible in the papers presented. Among the papers presented were papers that exploited the science-technology-innovation (STI) indicators to capture the research and innovation process insights. Authors whose papers covered this theme were invited to submit their full papers for the ‘*Journal of Scientometric Research*’. The Guest Editors of this Special Issue, through a rigorous double-blind peer-review process, as followed by the Journal, selected four research articles and a webliography. These papers have gone through various iterations to properly address the reviewers’ comments and Editors’ observations. The papers have covered these important topics: innovation in informal sector research, open access and open science issues that underpin responsible research, looking at the bilateral institution as an ‘innovation intermediary’ between the two partner countries and examining patents in the context of biosimilar drugs. The webliography on water that was motivated by the issues raised on sustainable

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development and on water related aspects discussed during the Conference brings a rich source of the repository of papers and resources available for scholars for undertaking research on this theme.

The issue began with an article titled “Publication Trends in the Informal Sector Innovation Research”, written by Hemant Kumar. Here the author identifies how the innovation research, representing other than the formal sector, has gained momentum in the last two decades and different terms like grassroots innovation, frugal innovation, jugaad innovation, inclusive innovation and informal sector innovation are often used in scholarly literature. These key terms have specific and contextual meanings and represent different sets of innovations different from their traditional or Schumpeterian understanding of innovation. The paper draws the instances of occurrence of literature on Scopus and Google Scholar databases that began since 2005, while the focus is given on publishing research on informal sector innovations. Further, a scientometric analysis of the Scopus database on parameters of the subject area, document types, countries of publications, source journals and institutional affiliations was conducted. The paper highlights that in the last decade, the relevance of such innovations has been recognised by academicians and policymakers alike and most studies or cases are coming from the developing economies, especially India. The paper further indicates that many government and non-government efforts have been made to identify the role of informal sector innovations in developing economies in a major way.

The second article in this issue is titled “Open Science in Addressing Responsible Research and Innovation: Evidence from India and Other Countries”, contributed by Das and Dutta. This paper highlights the brief background of the concept of Responsible Research and Innovation (RRI). The RRI concept has some key components, one of which is open access that brings forth the concept of open science. The global trend of open science research is presented in this article on the basis of data obtained from Scopus, Web of Science and PubMed. The global open access movements got strengthened after the release of the Budapest Open Access Initiative (BOAI) Public Statement on 14th February 2002, supporting the principles relating to open access to the research literature. This article points out the state of India in the production and dissemination of open access resources, in comparison with other BRICS nations. The Directory of Open Access Journals (DOAJ) and the Directory of Open Access Repositories (OpenDOAR) have recorded a significant number of open access journals and open access repositories from India, one of the best from the developing nations. However, in other open science areas such as ensuring open research data and publishing research publications with an explicit open licensing term, India is lagging behind many

developed nations. This paper also highlights the recent advancements in open science frameworks in the world vis-à-vis the open science strategies and practices in India as compared to other emerging economies.

The third article in this issue is titled “Bilateral S&T Organisation as an Innovation Intermediary: Case Study of Indo-French Cell for Water Sciences”, contributed by Shilpa and Bhattacharya. This article highlights the importance of networks and strategic linkages in the innovation and commercialisation process, taking instances from different theoretical models and empirical studies. This led to motivated policy actions at different levels for the creation of organisations that can facilitate the varied types of networks and linkages among the actors in the innovation system. These organisations are expected to perform various tasks that bridge user needs and supply side, skills and human resources, financial support, business and innovation strategies, knowledge about new technologies, implementation and other matters. These varied types of organisations are now defined under the innovation intermediary. Innovation intermediary is contextualised within the national, regional or sector innovation systems. These systems are influenced by global innovation networks, production and innovation value chains and through varied types of formal and informal linkages. One of the ways a country develops formal linkages with other countries is through bilateral organisations. Bilateral organisations in S&T are generally seen as a long-term strategic partnership between countries and can positively contribute to strengthening each partnering countries’ innovation ecosystem. The article examines the influence of Indo-French Cell for Water Sciences (IFCWS) in enhancing the water innovation ecosystem of the two countries, namely India and France. This bilateral organisation is also seen as a successful North-South collaborative innovation intermediary of recent times for addressing the key STI challenges of a global sustainable development goal. Although a single case study can be too limited to draw any definite conclusion, the authors argue that this study can help policymakers and policy analysts look at bilateral organisations as innovation intermediaries between two countries. The fourth article in this issue is titled “Role of Patents in Biosimilar Drug Development and Public Interest”, contributed by Raveendrashenoy. This article highlights how innovation in the field of biotechnology has opened up new avenues in the field of drug development, such as biosimilar drugs. The expiry of patents for many biopharmaceutical substances in various jurisdictions paved the way for introducing biosimilars in the market with reduced prices. India is a pioneer in the production of biosimilars. The grant of patents for drugs, as well as biopharmaceutical drugs, act as an incentive for the developers to recoup their investment. But this has resulted in creating an obstacle for access to medicine. The legislators have intervened in such situations by coming

up with new statutes for balancing public interest and the interest of patent holders of these drugs. This paper explores whether patents on biologicals facilitate competition, retard competition, or they require any other mechanism to balance the interests of patent holders, users' groups and the public. This article explores how regulated legislative intervention in the United States protects public interests. The article further examines the challenges faced by the biosimilars in the Indian market and the adequacy of the safety requirements of biosimilars in India.

This special issue includes a webliography titled "Webliography of Water Technology and Policy Framework in India and the World", contributed by Francis and Das. For a long time, knowledge asymmetry has been attributed to uneven growth and development across countries. Today, access to safe and affordable drinking water is a national concern and cooperations across the world are pushing towards sustainable development goals. Web portals, online databases, open datasets, scholarly publications, situational reports and policy reports related to water technologies and public policies are

now widely available online by the international and national institutions for facilitating knowledge exchange. These platforms have developed indicators to assess water-related concerns and share best management practices, sustainable approaches and datasets, making knowledge accessible for all. Also, recently bibliometric and scientometric studies have developed tools to assess the research in the water sector areas. This webliography is an effort to produce a comprehensive list of activities undertaken by the institutions participating in the knowledge creation and knowledge dissemination process in the areas of water internationally as well as in India.

This special issue hopes to enrich the scholarly discourse on STI indicators, draw the innovation research community's attention at large to the methodological approach of Scientometrics and motivate scholars from different disciplinary backgrounds to explore this domain of research within their scholarly engagement.

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