research in the form of publications, patents, citations of research as well as impact on local societies and students. He also highlighted the importance of qualitative methods in understanding the macro processes in science practice as well as in the social composition of science.

The workshop also included an interesting panel discussion as a public event, on 'Science, technology, innovation and its impacts and socio-economic development'. Late Baldev Raj (NIAS) delivered the opening keynote on 'Science, technology and education policies' and introduced the topic of the panel by explaining the importance of interplay between STI and socio-economic development. The panel discussion was moderated by Sundar Sarukkai. The panellists, Pranav N. Desai, Smita Srinivas (Indian Council for Research on International Economic Relations), Gayatri Saberwal (Institute of Bioinformatics and Applied Biotechnology, Bengaluru) and Satya Prakash Dash (Impact Lab, PATH India) actively participated in the event. Desai discussed the interplay between technology and development in the Indian context and emphasized on the existing mismatch. Srinivas pointed out few significant nuances in evaluating STI and development priorities, and India's position in an international comparison. Saberwal took a specific case of biomedical innovation, affordability and policy research. Dash discussed regulating innovation and future challenges with an emphasis on healthcare-related products. The event ended with an open discussion among the panellists, with some questions from the workshop participants and the general audience.

The final day of the workshop witnessed a 3-hour long captivating interaction with T. Ramasami on 'The roadmap for India's science, technology and innovation policy'. It was fully based on India's STI Policy 2013 and Ramasami's working manuscript on laying a roadmap for the country's future STI policy. He made a brief presentation on the evolutionary landscape, outcomes and impacts of science policies implemented in the country so far, an analysis of India's position in the global STI landscape as well as recommendations for future STI policy. This presentation was followed by a 2-hour long brainstorming interaction with participants on several key issues in the context, such as public engagement strategy in STI policy-making process, outcome analysis of policy, and the need and availability of data for evidence-based policy framing among others.

This workshop was a first-of-its-kind exercise in India as the focus was narrowed down to the research aspects of science, technology and innovation policy. The participants were also a unique set of professionals working on various STI policy-related research problems. The presentations were relevant and the discussion sessions were interactive. Overall, the workshop was both a knowledge dissemination as well as a knowledge creation experiment.

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MEETING REPORT

Connecting researchers for transformation in research culture*

Mountain ecosystems are globally important as centres of biological diversity and they are receiving increasing priority on global conservation agenda[1]. The Himalaya is recognized as one of the global biodiversity hotspots in view of its rich, unique biodiversity and vulnerability to perturbations. The goods and services emanating from this ecosystem are vitally important for ecological and economic security of a major part of the Indian subcontinent. Despite its global importance, the Himalaya is considered as a data-deficient region[2]. Recognizing the significance of the Himalaya as an important biological hotspot, the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India (GoI) launched the National Mission on Himalayan Studies (NMHS) as a Central Sector (CS) Grant-in-Aid Scheme in late 2015, with a vision to support the sustenance and enhancement of the ecological, natural, cultural and socio-economic capital assets and values of the Indian Himalayan Region (IHR). The mission currently supports innovative studies and relevant knowledge intervention to find scientifically sound solutions and best practices for conservation of the Himalayan ecosystem. In view of the ongoing difficulties in terms of remoteness, undulated terrain, lack of resources and infrastructure, research in the IHR has been advertently affected. Subsequently, there is a need to support research programmes in IHR as continuous decline in the number of young researchers, quality research, resource personnel and mentors has been observed in recent years. In this regard, the NMHS has initiated the Himalayan Researchers Fellowship programme across 12 states of the IHR.

As part of the NMHS Researchers Fellowship programme, a two-day Himalayan Researchers Consortium (HRC) was organized with an aim to (i) provide a platform for Himalayan researchers to present and discuss their research findings for peer evaluation, (ii) interact and gain knowledge/guidance from subject experts/mentors, and (iii) enhance their capacity to influence the scientific fraternity. Eminent lectures by subject experts for promoting biodiversity-based research in the mountains, one-to-one

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interaction, group discussion along with individual presentation by the Fellows were part of the consortium. A total of 60 Himalayan researchers, representing 11 institutions across 12 Indian Himalayan States under the Biodiversity Conservation and Management Theme, attended the consortium. Selected senior mentors and resource persons were drawn from various organizations to facilitate and moderate the proceedings of the meeting.

During the inaugural session, Kireet Kumar, G.B. Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD), Almora welcomed the gathering. He highlighted the significance of the Himalaya and emphasized about the functioning of NMHS from its inception; at present, it is working for generating data for IHR. He also added that NMHS is currently having 157 researchers working in 4 major broad thematic areas (water resource management, livelihood options and employment generation, biodiversity conservation and management, and skill development and capacity building) across 12 states of IHR.

Lalit Kapur (MoEF&CC) highlighted the achievements of NMHS and expressed his views on the identified theme of the consortium 'Biodiversity Conservation and Management', which forms one of the priority areas for MoEF&CC. He concluded that the consortium will help identify the constraints and challenges of research on the Himalayan biodiversity and its conservation strategies. Rajendra Dhobal (Uttarakhand State Council for Science and Technology (UCOST), Dehradun) said that NMHS is a good initiative from MoEF&CC. He highlighted that UCOST has been supporting several livelihood products, entrepreneurships and capacity-building initiatives, thus helping to reduce outmigration and contributing towards action-oriented research.

The Chief Guest, C. K. Mishra (MoEF&CC, GoI) during his inaugural speech emphasized on conducting the outstanding research for contribution to the nation. He said that it is easy to build new structures, but often difficult to rebuild an old one. In this regard, he conveyed a message that the youth of this nation have to face many challenges. He stressed that young researchers should add value to India's ecosystem, and the knowledge gained from their research and the data generated must converge with other datasets, thereby enabling sharing of knowledge and improving the quality of research in the country. Many of the action plans and future strategies in terms of biodiversity conservation and management need to have a scientific base. Subsequently, all research must fit into the national objectives. In this context, one needs to critically examine the following: (i) Demystifying of science. (ii) The research undertaken must have an element of communication so as to connect with the people. (iii) Many institutions/bodies and universities generate good ideas, which need to be put together for implementation and transcendence of research from laboratory to field.

The consortium consisted of three technical sessions on floral diversity, faunal and microbial diversity, and biodiversity conservation and management, wherein the Himalayan researchers were monitored and evaluated by eminent experts on five key points: (i) synopsis of the proposed study, (ii) research questions addressed and objectives, (iii) study area and methodology adopted, (iv) results and key findings, and (v) work to be done. The first technical session was chaired R. K. Kohli (Central University of Punjab, Bathinda), wherein 25 Himalayan researchers presented their work and progress made. The following major recommendations were envisaged: (i) recent advancements in the study to be consulted for improving research methodologies as well as data interpretation; (ii) standard approaches for plant collection and authentication need to be developed; (iii) proper analysis of datasets is required; (iv) integration of research work and uniform methodologies needs to be followed for biodiversity data collection and analysis. The second technical session was chaired by Lalit Kapur (MoEF&CC) and evaluated the progress of 26 Himalayan researchers. The following recommendations were made: (i) proper networking of research work is essential for gathering and analysing the datasets on targeted faunal groups; (ii) proper and systematic sampling approach should be followed for ecological data collection and analysis; (iii) output-oriented research needs to be promoted towards addressing national and international issues related to faunal studies. The third technical session was chaired by G. S. Rawat (WII, Dehradun), where nine Himalayan researchers made their presentations. The major recommendations of the sessions were as follows: (i) researchers need to follow globally accepted standard criteria for assessing threat index for various taxa; (ii) integrated conservation approaches for biodiversity in mountains are essential to address the global sustainable targets, and (iii) in view of global prioritization, the conservation issues need to be decided and methodologies should be followed strictly according to the conservation action.

The concluding session was chaired by S. K. Barik, CSIR-National Botanical Research Institute (NBRI), Lucknow and the following conclusions were made: (i) strengthen interdisciplinary and collaborative research for improving the quality of study; (ii) establish a knowledge-sharing network for the young Himalayan researchers; (iii) need to follow a standard methodology across the IHR to generate comparable datasets and do extensive review for avoiding repetitive work; (iv) consult other experts in the same field in order to improve the methodologies as well as experiment designs and (v) disseminate the new methods and research approaches to other young Himalayan researchers.

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