

Minutes of the 1st meeting of Research and Development Cell (RDC) held virtually

on

8th July 2022

First meeting of the newly constituted Research and Development Cell (RDC) of the HNB Garhwal University was organized online on July 8, 2022. All the committee members including renowned experts and mentors participated in this meeting. The meeting was chaired by the Vice Chancellor of the HNB Garhwal University Prof. Annpurna Nautiyal.

Prof. M.C. Nautiyal, the convenor of the RDC welcomed all the experts, mentors and committee members. He elaborated the constitution and structure and functions of RDC in detail. After this the experts and mentors shared their ideas about the roadmap and development of RDC in future.

Dr. J.C. Kuniyal (Scientist - G, GB Pant National Institute of Himalayan Environment & Development, Kosi Katarmal, Almora) spoke about the vision and plan of Government of India for Indian Himalayan states by 2030. He provided a detailed information and suggestions on Hill agriculture, tourism, clean energy and solid waste management. He highlighted the opportunity and challenges in agriculture at hilly regions, and suggested more research on organic farming in hilly areas and how tourism can become a tool for economic development by managing the challenges of transport, infrastructure, and solid waste management. He also emphasized on the strategic assessment and research of hydropower projects, particularly small and large hydropower projects and the carrying capacity of a river as well as the black carbon, aerosols and solid waste and their impact on humans and biodiversity.

Prof. Alok Saklani (an alumnus (cum former Dean- Faculty of Commerce & Management of HNB Garhwal University and currently Professor Emeritus at Swami Rama Himalayan University, Jolly Grant) spoke about the diversity of universities and colleges in India. He emphasized on the need to ensure good quality research which should reflect in recognized publications and patent award, as well as, commercialization of same. He appreciated the formation of the various committees and suggested that, in order to develop a research ecosystem in Indian universities, an environment for research should

be duly supported by careful planning & set up of processes and infrastructure, subsequent to the formation of the same (committees). He also advocated the need to create a team in each committee, who must further formulate goals and timelines- with clearly identified responsible person(s)- and follow up, to pursue the same (goals). The RAC should then regularly review the periodic reports of each committee; Research and development should go hand in hand with sustainable Ecosystem Management.

Prof R. C. Kuhad, a renowned scientist and former Vice Chancellor of Central University of Haryana congratulated Vice Chancellor and colleagues' for establishing R & D Cell in the university. He opined that strengthening research activities in Indian universities is necessary and emphasized the need for strengthening the infrastructure and research environment to develop research temperament in our universities by motivating researchers and graduate students. He highlighted the need for developing Innovation and Research Environment, inculcating habit of ideation, developing research temperament, SWOC analysis of research facilities and research progress, making research compulsory for each teacher, improving applied Research Capabilities of Faculty, identifying thrust areas of research, strengthening and creating need based facilities, developing institutional connect and collaboration, active liasoning with funding Institutions in India and abroad, creation and documentation of research areas , their progress and outcome, developing Information Resource system, special training in Research and publication ethics, Regular Academic and Research auditing, Monitoring the Research Proposal development and its progress in terms of IPR and publication, regular SWOC analysis by committees and annual report presentation to Chairperson of RDC and RDC Committees. He said that faculty must also be motivated, provided training to make learning more interactive research oriented. He said universities should organize research and science competitions within departments, conceptualization of research problems is important in which RDC can play a significant role. The need to enable smooth procurement of sophisticated instruments, laboratory equipment's and incubation center, innovation cell and new laboratories was also emphasized by him. Research needs to be documented; modern technologies need to be adopted for strengthening our researchers. Awareness programs for funding opportunities should be conducted in which RDC can play a very important role.

Prof. Asha Chandola Saklani (former head of Zoology and Bio Technology department of the HNB Garhwal University and presently associated with SHRU, Jollygrant) in the capacity of mentor emphasized on quality research and suggested that R&D Cell committees of the university need to work on applied research which must include technology transfer to society. It is very important to develop ideas in youngsters, and making teaching enjoyable. Cell can work on development of early research program, project-based learning for developing research temperament in youngsters and awareness in researchers for local indigenous problems is necessary.

Transparent performance-based evaluation is very much required in the universities, R&D Cell can work on monitoring of research.

Prof. D. K. Nauriyal (an alumnus and executive council member of the HNB Garhwal University and former Vice Chancellor of the Kumaun University and currently Professor at IIT Roorkee) showed his concern about declining NIRF ranking of the University and measures to be taken to improve this ranking. He spoke about how patent is important for research output. He extended his concern about capacity building in social sciences. He also spoke about the need for MoU's with research institutions for more collaborative quality research.

Prof. K.S. Rao (former head of Deptt. of Botany, University of Delhi) said that researchers from mountain regions have great potential but they lack self-confidence, R&D cell can work on better mentorship and promotion of these researchers in the following ways: (i). to provide counselling to students in the first two years on personality development, speaking skills, presentation making and effective writing. (ii). the teachers and students need to understand the need of UGC care publications and impact factor journals for publishing their work. (iii). reduce the disparity between those performing at the top and those not able to meet the average benchmarks, mentor assistance programmes should be organised wherein experienced mentors can guide the students in preparing themselves for the research as a career. (iv). students should be encouraged to participate in international conferences more actively to learn the tricks of effective presentation. (v). universities should organise online lectures by eminent speakers on various subjects each month and make it mandatory for all students to attend them. (vi).

students should be encouraged to state how their work is going to add in scientific knowledge or technology that can help the local people in reducing their effort/improve economy.

Dr. Navin Juyal (an alumnus of the HNB Garhwal University and a geo scientist formerly associated with Physical Research Laboratory, Department of Space Unit, Ahmedabad) stated that we have to identify the thrust area for R&D in geological science. Considering the frequencies and magnitude of extreme events which had source in the higher Himalaya particularly from the paraglacial valleys (area vacated by the glaciers in the recent geological times). Hence these valleys are not sediment limited but are transport limited. Therefore, university like HNB Garhwal, which is located in the upper Ganga catchment, besides carrying out the basic research in geology, must try to shift focus towards the societal needs. This involves understanding the cryosphere response to climate change with emphasis on the paraglacial zones. Because the major disaster in the past were triggered from these valleys, the recent examples are the Rishiganga and Kedarnath disasters.

Prof. Rekha Pande (Former Head of Centre for Women's Studies and Department of History, University of Hyderabad, and presently Professor Emeritus, Henry Martin Institute, International Centre for Research, Interfaith Relations and Reconciliation, Hyderabad) although was not virtually present in the meeting but have forwarded her comments stating that the level of research among the students in Uttrakhand is not up to the mark and a lot needs to be done. The students are very bright no doubt but we do not have a proper training for the students to inculcate the idea of research in them. This Committee is a right step in this direction and I am sure it will play a very important role. She has recommended that (i). once the student is admitted into a programme there should be a Research Advisory Committee (RAC) established for each student to monitor the progress of the student and help in providing guidance. The Research Committee can comprise of the supervisor and two faculty who are experts in the area the student is working on. One could be from the department and another from a different school within the University. This Committee should meet every semester to evaluate the progress of the students and this should be linked to further registration, scholarship and other administrative requirements of a research student. (ii). the University should take

advantage of the online portals and organise lectures on Research Methodology, Plagiarism, ethical principles in research. (iii). there should be workshops organised on publications and impact factors of Journals. (iv). in the annual Report of the University, every department should also report on the publication of its students and their participation in Conferences and Workshops. (v). there should be an effort in the long term to establish a fund to provide some financial backing to students to participate in Conferences in India/ Abroad.

Prof. Ashutosh Kumar, head department of Political Science and member of Research Promotion Committee, Punjab University, Chandigarh, suggested that proper evaluation of Ph.D. thesis is needed for a good research output. The research examiners should be from different states and no examiner should be repeated till six months. One examiner from abroad can be optional particularly for science subjects. The courses on research methodology should be introduced in master's program itself. Constant evaluation of teachers is required, for that R and D cell within university can be activated. Syllabus should be updated for social sciences and need to work on research ethics. In RDC also this component needs to be strengthened.

Prof. S.S. Rawat, former head and professor of Horticulture of HNB Garhwal University spoke about focusing on agriculture research in the hill area under different climatic zones, viz. foot hills, valleys, and mid & high altitudes, and the importance of initiating agricultural research and appropriate methodologies for the benefit of the society especially for the farmers community. Off-season cropping in the hill regions may be good subject of research along with establishing improved cultural practices for modern organic farming of suitable crops. Emphasis on agricultural development in the hill regions through (i) need based research and innovations (ii) improved organic cultural practices (iii) effective cropping and marketing systems, and (iv) extension service, may greatly help in reducing migration from the hills and promote reverse migration in days to come, especially in Uttarakhand.

Chairperson of RDC, Prof. Annpurna Nautiyal stressed while concluding the meeting that suggestions from various speakers can be implemented along with review and implementation of the desired plan of action. The research ecosystem in the university

must be reinforced and challenges in research need to be addressed. High quality and scientific R&D projects must be proposed by faculties and given priority. Integration of education and making it a fun-learning experience is necessary. She said that we have to nurture human resources through our researchers, our faculty need to be actively involved in the research, and we should go to field areas to understand the problem and then plan accordingly. She also showed her concern about NIRF ranking and emphasized on what we can do for achieving NIRF ranking. She also talked about consortium of fourteen Himalayan universities (IHCUC) in which the work was done on 5 thematic areas for the policy development in IHR. Reports on these five thematic areas have been submitted to NITI Aayog for the implementation of recommendations in the states of IHR. She also advised that R&D Cell should work on the problem of migration of Uttarakhand. Collaborative research with Industry, Govt., research institutes is needed and community should be encouraged to participate in research programs. She suggested that new course can be introduced on Research methodology for PG final year student who want to enter in the research field.

She also suggested that Prof. M.S. Rana, University Librarian should be added as a member in the committee on IPR, legal & ethical matters of RDC and further she advised that the next meetings of RDC to be organized committee/ theme wise.

At the end **Prof. Anoop Dobriyal** delivered vote of thanks to all the experts, mentors, resource persons and committee members. Prof. Dobriyal also thanked Hon'ble VC madam for her keen interest and suggestions provided for the RDC committees.

(Convenor, RDC)

(Vice Chancellor)
