

Report on Brain storming session on teaching and research programs of Uttarakhand Residential University

The meeting was held on 16th and 17th April 2017 at G B Pant National Institute of Himalayan Environment and Sustainable Development, Kosi-Katarmal, Almora.

The brain storming session was inaugurated by His Excellency, The Governor of Uttarakhand Dr. K. K. Paul at 2:30 pm on 16th April 2017. The occasion was also graced by the Hon'ble Minister of Higher education, Uttarakhand Govt. Dr. D.S. Rawat and Hon'ble Deputy Speaker Sri R. S. Chauhan. The dignitaries appreciated the purpose and outcome of the brain storming session and also expressed their support towards the development and progress of the University. The valedictory session was graced by Sri Ajay Tamta, Hon'ble Minister of State, Textiles, Govt of India. He emphasized the need to work on natural resources of Uttarakhand in an innovative manner and assured his support to the cause of the University.

The deliberations of the meeting started in the morning of 16th April 2017. The Vice Chancellor of Uttarakhand Residential University (URU), Prof. H. S. Dhami welcomed the delegates and briefed them about the aims and objectives and functional status of the University. Prof. Preeti Joshi, coordinator of the brain storming session briefed the delegates about the objectives of the meeting and the mandate of the University. She invited the delegates to express their views and suggestions on teaching and research activities to be initiated in this new University. The distinguished delegates from Universities, National Research institutions and from Industry expressed their views. The experts from different disciplines floated their ideas and suggestions.

Based on these deliberations intense discussions were carried out on 17th April 2017 and some recommendations for the University were prepared. The summary of the deliberations and recommendations is as follows-

It is an opportunity and challenge to set up URU as an extraordinary Institution with gold standards in teaching and research. URU should not be a yet another University merely providing degrees in the conventional subjects in Arts, humanities and Science, rather it should be a professional course based University. The academic activities in the University should be planned considering the societal needs of the region, rich local resources such as Art, culture, traditional knowledge, and bio resources of Himalayan region. Most importantly the courses should be designed to empower the students with knowledge and skills to ensure their employability and career growth. It was emphasized that the curriculum should evolve with global research and research based training material should be used to impart skills to the students to enhance the quality of training and hence employability.

Discussions were carried out on the activities of the four schools presently sanctioned for the University

1. Jagat Singh Bisht School of Hospitality Administration

Experts in this area suggested that university should start teaching of some skill based Diploma and PG Diplomacourses related with Tourism and Hospitality Management, Facility Management,

Property Management operations, Health care Management and other Uttarakhand specific skill development courses under self-financed or PPP mode.

2.Uday Shankar School of Arts and design

Experts in this area expressed that some diploma/certificate courses can be started shortly. Dr. Vijaya Deshmukh, Director of NIFT Jodhpur and Sri Bhupendra Kainthola, Director Film and Television Institute Pune have pledged support from their Institutions for initiation of these courses. NIFT would help the university in short listing the NIFT alumni who will support the university in identifying, designing and developing the curriculum. NIFT Jodhpur will also be associated in faculty development (training of trainers) and intellect sharing. It was suggested that the University should start M.Des programme but keeping in view its limitations, it was recommended to start the following courses under self-financed mode-

(a) One year PG Diploma in communication design

(b) One year PG Diploma in Fashion designing

These courses will be helpful in promoting the art and culture of Uttarakhand by means of identification, documentation and value addition and will open the opportunities of self-employment as well as employability in various sectors.

3. School of Natural products and traditional knowledge system

4.School of Biomedical Sciences

There was in depth discussion regarding the proposed courses under these two science stream schools. All the experts felt that the Masters courses proposed in these two schools pertain to very narrow specializations which would be a serious constraint for the students in terms of employability. The Masters Degree program should equip the students with knowledge and skills to compete globally. It was unanimously felt that the M Sc. courses should be designed considering wider acceptability, job prospects for the students and also UGC norms. The courses must contain some core subjects and specialization can be provided on specific subjects as per the mandate of the University to offer courses on Natural Resources and Traditional Knowledge system of Uttarakhand. Research programs should be focussed on traditional knowledge system, Natural resources, biodiversity of Uttarakhand. Considering the factors such as global acceptability, employability of students, current and future demand for the courses, current concept of interdisciplinary science and most importantly the mandate of the University re-nomenclature of the schools and the post graduate courses was recommended as follows

School of Natural Sciences

Following two courses can be initiated under this school

a) MSc (Plant Sciences).

Specialties/ electives

- Biodiversity, conservation, and traditional Knowledge
- Ethnobotany
- Ethnopharmacology
- Pharmacognosy

- Aromatics, Therapeutics
- Herbal medicine, Cosmeceuticals, nutraceuticals

Eligibility - B.Sc. in any area of biological sciences/biotechnology, MBBS, B.Tech (Biotechnology or chemical technology)

b) MSc (Phytochemistry)

- **Specialties/ electives**
- Medicinal Chemistry
- Analytical Chemistry
- Biochemistry

Eligibility - B.Sc. in any area of biological sciences/biotechnology, chemical sciences, MBBS, B.Tech (Biotechnology or chemical technology)

School of Biomedical Sciences

The following departments and courses were recommended under this school.

a). Department of Biotechnology

M.Sc. Biotechnology

Specialties/ Electives

- Omics and Bioinformatics
- Plant tissue culture
- Plant Biotechnology
- Biochemical engineering
- Biomedical technology

Eligibility- B.Sc. in any area of biological sciences,biotechnology, MBBS, B.Tech (Biotechnology or chemical technology)

b). Department of Pharmaceutical Sciences

M.Sc. Pharmaceutical Sciences

Specialties/ Electives

- **Pharmaceutics**
- **Drug Development**
- **Ethnopharmacology**
- **Pharmaceutical chemistry**

Eligibility –B.Pharma, B.Sc with chemical sciences, MBBS, B.Tech (Biotechnology or chemical technology)

It was also recommended that in future University should also initiate programs in other subjects pertinent to the state such as Himalayan geology and ecology etc.

Research activities

Considering the rich and invaluable natural resources of Uttarakhand and traditional knowledge in the region the research can be focussed on value addition to the naturals and be product driven. Recognizing the precious wealth of naturals and plant biodiversity in Uttarakhand it is a great opportunity to encash the enormous potential of their use as nutraceuticals, personal care products as well as in therapeutics but intense research is required to scientifically scrutinize their efficacy and safety. It is a challenging task and requires a multidisciplinary approach. The above proposed disciplines in the science schools are complimentary and are very relevant for research on naturals and biosciences. All the departments can make concerted efforts on products driven research. In the long run such program will be of immense value for commercial exploitation and societal empowerment. The Human resource developed in these schools will be equipped with knowledge and skill sets to be employed in the industry, become researchers and to become entrepreneurs. Nevertheless such ambitious research and teaching programs would require infrastructure facilities specially laboratory facilities. It has been unanimously recommended to set up a core facility with essential equipment required for research and training which can be used by all the departments. The success of the university is evaluated by the quality of the human resource produced, quality of research and achievements of the faculty members. Such laboratory facility is essentially required to provide experimental skills to the students, to attract good faculty and to initiate research programs on naturals and bioresources of Uttarakhand. It is appealed to the Govt of Uttarakhand to provide generous funds to set up the core facility. This facility can later be enhanced through research grants raised by the university. It is also proposed to develop this core facility as an incubation centre where the resources can be to be utilized by users from other institutions and industry on payment basis. The revenue generated through this mode can be utilized to self-sustain the incubation centre and to add high end equipment and other facilities for research.

Finally in the concluding session it was emphasized that the success of the programs in URU will ultimately depend on the faculty members of the university. Therefore efforts should be made to attract best faculty. Efforts should be focussed on developing good laboratory facilities to attract the dynamic and research oriented faculty and to provide high quality teaching programs. It was also suggested that senior academicians and scientists from research Institutions and industry should be invited for collaboration and also as guest faculty. Such measures will be important for creation of vibrant research and learning environment in the University. On behalf of Central Institute for Medicinal and Aromatic Plants (CIMAP), Lucknow, Dr. Ashok Sharma, Chief Scientist, has assured their support for research and teaching programs in the University.

The research achievements and quality of human resource produced by the university will eventually lead to its recognition in the global scenario. At the same time short term diploma/certificate courses in arts and hospitality schools can help in fulfilling the aspirations of locals by enhancing their prospects for jobs, self-employment and entrepreneurship.

The meeting ended with vote of thanks to the chair.

Names of the resource persons-

1. Dr. Rajendra Dobhal
2. Prof. K S Valdia
3. Dr. Cyrus Karkaria
4. Dr. Manoj Joshi-
5. Dr. Anurag Varshney
6. Prof. P K Seth
7. Dr. Ashok Sharma
8. Dr. A K S Rawat
9. Prof. Jaya Tyagi
10. Prof. Pankaj Seth
11. Prof. N Raghuram
12. Dr. L Rahman
13. Dr. B S Bisht
14. Prof. C S Mathela
15. Prof. S P S Bisht
16. Prof. P D Juyal
17. Dr. M S Rana
18. Dr. Vijaya Deshmukh
19. Sri Sameer Valdia
20. Sri Gaurav Dixit
21. Prof. K K Pandey
22. Prof. Preeti Joshi
23. Prof. N B Joshi
24. Dr. P P Dhyan
25. Dr. D S Rawat
26. Dr. R C Sundariyal
