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Government of India
Ministry of Human Resource Development
Department of Higher Education
Technical Section-I

Shastri Bhawan, New Delhi
Dated the 1st May, 2014

To

The Participants
(as per list enclosed)

**Subject: Minutes of the Workshop held on 18th January 2014 at IIT Kanpur on
Green Policy and SandHI initiatives of MHRD**

Sir,

I am directed to herewith forward copy of the Minutes of the Workshop held on 18th January 2014 at IIT Kanpur on Green Policy and SandHI initiatives of MHRD for information and necessary action at your end.

Yours faithfully,

Encl.: as above



(S. Gopal Krishna)
Under Secretary to the Govt. of India
Tele-fax : 2307 0660

List of Participants of the Workshop held on 18th January 2014 at IIT Kanpur on Green Policy and SandHI initiatives of MHRD

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Minutes of the Workshop held on 18th January 2014 at IIT Kanpur on Green Policy and SandHI initiatives of MHRD

The Workshop was attended by:

MHRD: Mrs. Amita Sharma, Additional Secretary (TE), MHRD

IIT Kanpur: Prof. Indranil Manna (Director), Prof. Purnendu Bose, Prof. S. N. Tripathi, Prof. Anurag Gupta, Prof. Mahendra Verma, Prof. Shivam Tripathi, Prof. Javed Mallik, Prof. I. Sharma, Ms. Koumudi Patil, Prof. Tanika Chakraborty, Prof. Onkar Dixit, Prof. Monica Katiyar, Prof. Sudhir Mishra, Prof. Bharat Lohani, Prof. Anoop Singh, Dr. R. S. Anand, Prof. Abhas Singh, Dr. Rajesh Jaiswal, Prof. Saikat Ghosh, Dr. Bikram Grewal (Scholar in Residence)

IIT Roorkee: Prof. Pradipta Banerjee, Director

IIT Chennai: Prof. Ligy Phillip

IIT Mumbai: Prof. Monica Jain, Prof. Ramsubramaniam

IIT BHU: Prof. Brijesh Eshpuniyani, Prof. R. K. Dubey

IIT Kharagpur: Prof. Partha Chakraborty (through Video conferencing), Prof. Joy Sen, Prof. Mainak Das

SPA, Delhi: Prof. Chetan Vaidya and Prof. Nalini Thakur

Centre for Science and Environment: Dr Suresh Kumar Rohilla

The meeting began with the Welcome Note by Prof. Indranil Manna followed by the Opening Address by Mrs. Amita Sharma informing the participants of some of the initiatives being taken by the Ministry in consultation with the IIT Council with regards to Green Policy, SandHI initiatives and Design manifesto. The need for IITs to be institutions for holistic and multi-disciplinary learning which contribute to socio-cultural as well as sustainable needs was stressed.

The workshop was then thrown open to the participants in two sessions: Session I: On issues of sustainability, and Session II: On SandHI initiatives

Session I

The first session largely concentrated on the efforts taken by IIT Kanpur to make a sustainable campus leveraging on its naturally rich biodiversity encompassing the following points.

- 1- Green Office: Director, IIT Kanpur made a detailed presentation regarding the dilemmas faced by the institute while treading on a sustainable road map. Issues of retro fitting, man-animal conflict, cost of vertical buildings, preservation of heritage/iconic structures, ever expanding academic, research and residential needs in a finite space

are only a few amongst many. Structures of the newly set up Environmental Advisory Committee and the Green Cell of the Institute for deliberating such issues were also laid out in detail.

- 2- Open House on Green Policy: The rich exchange of ideas and issues in between faculty and administration during the Open House held on 14th January'2014, the possibilities of engaging with them and some immediate measures for the same were discussed by the members. Bikram Grewal, resident scholar also mentioned establishing a Neelgai sanctuary to resolve the possible man-animal conflict on campus. The transparent and participative manner in which the Institute held the Open forum was applauded by all. It was decided that the minutes of the open house should be shared with all other IITs through the IIT council website.
- 3- The members were informed that IIT Kanpur had recently completed a detailed Green audit of its campus. The details of the same, already sent to MHRD, would be soon released.
- 4- A novel system for assessing toxicity and source identification of soot which is found in high levels in urban and industrial areas was presented by Prof. S. N. Tripathi.

Prof. Pradipta Banerjee also presented the IIT Roorkee approach to issues related to sustainability. He gave an overview of the cradle to cradle approach being planned for all materials, products and their waste, intense use of solar energy and storm water, rain water and waste water management.

The session concluded with a consensus on the following points:

- (a) Each IIT should maintain the appellations used in the Green notification dated 05-06-2013 and create and maintain a Green Office to oversee the implementation of Green Policy of MHRD. Accordingly, the Green cell at IIT Kanpur should be the major advisory, executive and monitoring body chaired by the Director of the Institute.
- (b) Master Plan should evolve through consultation within the entire community and should leave room for dynamic changes and accommodate new infrastructure, future expansion and current problems. Green Office should have provision to collect feedback from the community, external agencies and interested parties continuously. A sustained effort is needed to calculate and reduce carbon footprint within the Campus.
- (c) External Experts and Consultants should be included in the Green Office.
- (d) New civil works construction project should be cleared (pre-green audit) with prior endorsement of the Green Office.

- (e) A 25% pristine green zone to protect flora and fauna would be marked. This will be an area where no construction or tangible human intervention will be allowed, now or in future. This will provide the green cover needed for conforming to several environmental concerns of the institution as it maps its infrastructural development. This may be reviewed after 25 years as the need for expansion manifests itself and other greening initiatives bear fruit so that the overall green cover is maintained.
- (f) The Institute will protect its flora and fauna. IIT Kanpur campus is blessed with rich wildlife that includes peacocks, porcupines, rabbits, Neelgais and pythons amongst many others. In this context, the development of the pristine zone as a sanctuary will be explored. Measures should be taken to reduce man-animal conflict and ensure peaceful coexistence.
- (g) New construction projects should begin once the permanent inviolable green zone is marked. Each project needs approval of the Green Cell and the EAC.
- (h) The minutes of the open house, these minutes, as well as the green audit process and data should be shared amongst IITs and interested community members through IIT Kanpur and IIT Council Website.

The exemplary initiatives taken by IIT Kanpur under the leadership of its Director Prof. Indranil Manna are to be applauded. Session II

The SandHI session began with a talk by Dr. Anurag Gupta from IIT Kanpur who presented an interdisciplinary proposal to actively engage in the preservation, examination/ interpretation, and dissemination of Indian Knowledge Systems with contemporary scientific body of knowledge and contexts of application. The presentation included five sub projects including the creation of a Museum on Science and Technology, study of Indian musical instruments, scientific interpretations of *Vaisheshik*, water harvesting systems at Kalinjar fort, study of ancient settlements of Rann of Kutch, and building of a resource centre for studying ancient texts. The proposal was well received with an in-principal approval of its budget by the Additional Secretary.

The Varanasi SandHI was discussed in details with members from IIT BHU, Kharagpur and Kanpur. Possible areas discussed for exploration by this SandHI were five- Ganga (Natural heritage), Sarnath (Built heritage) Manas (Textural heritage), Craft (Economic and skill heritage) and Banarasi market (Behavioral heritage). These areas were selected due to their significance in both living and bygone times- Ganga because of its mythological and strong

ecological connotations, Sarnath as a manmade structure that blends physics as well as metaphysics, Manas as a text for linguistic analysis, craft for its role in manufacturing as well as hand skills and the Banarasi market as a study of a self-organising behaviour. The discussion that ensued looked into the possibilities of each as an area of enquiry from the point of view of science and technology as well as culture. It was argued that though all the areas have a strong cultural connotation but the scientific and technological approach towards their understanding needs to be examined and developed.

It was noted that IIT Kharagpur has identified five interdisciplinary teams for the first phase of the Varanasi SandHI- the ancient geo-morphology and riparian system of Varanasi, an assessment of the cosmological models and sacred myths associated with the green and ecological habitat of various town planning orders and urban design systems of Varanasi, a study of the order of community planning and social management systems, Archaeological services: Conservation, adaption, re-use and re-modeling of various 'sacred' ecosystems of Varanasi, augmentation of civic services and utilities systems of Varanasi and boosting creative economy of traditional knowledge systems in Varanasi and re-position them in the contemporary framework of application. They were advised to collaborate with SPA Delhi for their proposal on the re-designing of the Ghats.

Prof. Omkar Dixit from IIT Kanpur also presented a detailed summary of the work, infrastructure and the additional requirements raised by increased engagement between ASI and CAST. (Center for Archaeological Sciences and Technology) The last talk was given by Dr. Tanika Chakraborty on the decision making skills of students.

The workshop ended on a positive note of consensus on increased collaboration between all IITs on matters related to sustainability- processes and procedures for the same and a network of collaborations on areas of research related to science and culture.