

Minutes of Green Committee Meeting of IIT Roorkee held on Nov 18, 2020 on Webex Platform at 5.00 pm

The following members were present:

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| 1. Prof AK Chaturvedi, Director | - Chairman |
| 2. Prof M Parida, Dy. Director | - Special Invitee |
| 3. Prof Arun Kumar, HRED | - Convenor |
| 4. Prof Umesh Kr Sharma, Dean Infrastructure | - Member |
| 5. Prof ML Kansal, WRDM | - Member |
| 6. Prof Bhanu Prakash Vellanki, CED | - Member |
| 7. Prof Ram Manohar Singh, HSS | - Member |
| 8. Prof Avlokita Agarwal, Arch and Planning | - Member |
| 9. Dr SH Upadhyay, ADOSW (Bhawan & Mess) | - Member |
| 10. Shri Ajay Sharma, Institute Engineer | - Member |
| 11. Shri Bhavneesh Lal, Institute Architect | - Member |
| 12. Ms.Dyutisree Halдар, RS | - Member |
| 13. Mr.Vaibhav Jain, RS | - Member |

Dean Saharanpur campus could not join the meeting due to medical emergency.

Prof AK Chaturvedi, Director welcomed the members of committee. He asked Prof Arun Kumar to present the agenda scheduled for the meeting. At the onset of the meeting, Prof Arun Kumar introduced the newly joined Project Associate Ms Saylee Bhogle to assist the green committee office. Budget for green committee office has been approved by the chairman for 3 years in the project mode to take care the expenses related to green committee office especially for project staff and membership to international forum.

Agenda 1. Actions Taken Report:

The action taken report after the past two meetings held on Aug 08, 2018 and Jan 14, 2020 were deliberated.

- a. *Bio-diversity on campus*: Institute Architect informed that an agency has been hired to conduct the topographical survey of the institute and almost 60% of the work has been completed. However due to the COVID-19 scenario, the work could not be completed and the agency will take time. A detailed study on the flora and fauna of the campus may be carried out by hiring externally agencies viz 'Wildlife Institute of India' and 'Forest Reserve Institute'. They shall be contacted for the same. Prof Arun Kumar shall take necessary action and submit the same to Prof AK Chaturvedi for contacting the institution to get the study done.
- b. *Water*: To reduce the water consumption, water meters to be placed at the users end where the consumption is more than 500 m³ out of a total consumption of 5000 m³ per day. Prof ML Kansal proposed that all the major pipelines to be computerized. Further, it was also suggested that a faculty is assign to prepare a comprehensive doable plan to reduce the water

consumption in IITR. For carrying out such efforts, the activities and staff shall be funded under project mode. Prof Bighu Suchetna (CED) shall take the lead and may opt other colleagues. Shri Neeraj Kohli, AEE, Electrical and Water Supply, Shri Navneet, JE, Water supply shall provide the necessary inputs to the team.

- c. *Waste*: A proposal has already been initiated for the same. Also, phase I of E-Waste management is under-way. Details are available at agenda no. 5.
- d. *Energy*: An order has been placed for the same has been placed for installation of 1 MWe Solar photovoltaic on hostels roof 1.89 per kWh for a power purchase agreement of 25 years expected to be completed by March 2021 and the work on Opex basis from a RESCO (Renewable energy sources company) recently. DPR prepared by PGCIL has been agreed by the institute and implementation work is under progress and expected to be completed by March 2021.
- e. *Vehicles*: Proposal of procuring e-Car has been initially dealt by Prof In charge Vehicle and as per green committee minutes is being dealt by the convener of Green Committee since March 2020. MMS has again proposed the procurement through GEM but no quotations on GEM are being received even after 3 trials. Prof Arun Kumar suggested that the proposal to procure e-cars should be done directly from the manufactures/dealers. Dy Director will discuss the matter with DR MMS and necessary action for early procurement for e-Car / vehicle using the money available shall be taken.
- f. *UI Green Metric System*: Prof Avlokita Agarwal presented the brief prepared for the UI Green Metric System 2020 submitted in Oct 2020. The area required for improvement have been highlighted and possible scenario for the year 2021 and 2022 have been also presented. Increase in the use of water-efficient and energy-efficient appliances was suggested. It was also pointed out that Waste and Water are the two parameters were we need to gain more points in future.
- g. *Subscription to ISCN*: Applications for ISCN was submitted in July 2020. The Chairman Prof Chaturvedi informed that ISCN has accepted IIT Roorkee as member on 18th Nov, 2020.
- h. *Drainage on campus*: No substantial work has been done in this aspect as reported by the Institute Engineer. Dean Infra shall discuss the matter with immediate past Dean Infra and shall come out with the required action for addressing the drainage issue of the campus.

Agenda 2. Implementation of Mini-forests in IIT Roorkee:

Prof. Avlokita Agarwal presented a proposal on implementation of mini-forests in IIT Roorkee campus. It was decided that a detailed survey should be carried out and doable plan should be prepared and presented. The road network, master plan of the campus and departmental users especially the front side were three main parameters discussed in the meeting. Some specific space near Saraswati Mandir

and behind Institutions Engineers were suggested. It was decided that a core committee comprising of Prof Avlokita Agarwal (Arch and Planning), Prof BP Vellanki (Civil Engineering) and Shri Bhavneesh Lal (Institute Architect) shall study the matter in depth and prepare the plan. The committee may also co-opt any other faculty as per requirements. The crossing of the roads shall be looked into.

Agenda 3. Water Conservation Implementation Plan in IIT Roorkee:

Prof Arun Kumar provided an over-view of the work done till date in this regard. It was discussed that a detailed study should be done on this proposal including the budgets, feasibility, quantity estimates and costing. The same should be piloted by Prof Deepak Khare and Shri Neeraj Kohli (AEE Electrical and Water Supply). It was suggested that they be invited in the next green committee meeting to present their detailed proposal. Any budget required for preparing the plan and detailed project report shall be provided by the institute.

Agenda 4. Planning for distribution, monitoring, maintenance including desired water quality to reduce water foot print:

Agenda 1(c) be referred.

Agenda 5. Solid waste management to reduce waste disposal:

Prof BP Vellanki presented the matter of solid waste management on campus. After a detailed discussion on the same, it was decided that segregation of solid waste and Bio-methanation of organic part is considered as the option to reduce the waste contribution to the society and retrieving the energy from the waste. A detailed report on the feasibility, costing and land requirement shall be prepared by Prof BP Vellanki. For locating bio methenation plant the space shall be identified in the campus or otherwise Municipal Corporation of Roorkee shall be requested to provide. Any budget required for preparing the plan and detailed project report shall be provided by the institute.

Under the guidance of Prof BP Vellanki, Shri Praharsh and Shri Devesh students from the ECO Group, presented the study conducted by them on the Paper, Plastic & Styrofoam Cutlery problems and substitutes. It was decided that this idea can be initiated by Student's council along with the co-operation of Bhawans and Mess, with the support of Associate Dean (Bhawan and Mess) and guidance of Prof BP Vellanki. This issue can be addressed in stages. One bhawan can be targeted in the first instance. Further decisions can be taken after seeing the results stage-wise. Prof. Avlokita Agarwal also suggested about an organization 'Maathi' who make clay/earthenware cups. This option might be considered after studying the feasibility of this proposal and looking at the stage-wise results.

Agenda 6. Other Items:

Under the guidance of Prof Ram Manohar Singh, Ms. Saylee Bhogle presented a document on solutions which can be opted as alternatives for burning of leaves on the campus. It was proposed that a survey should be carried out and data is analysed to understand the waste that be segregated against non-segregated waste. A questionnaire may be prepared by Prof Ram Manohar Singh in consultation with Prof BP Vellanki and can be emailed to staff and students. An awareness campaign / notice can be issued to report the burning of the leaves found anywhere on the campus. Posters can be prepared for the same

Hazardous Waste: Presently solid as well liquid hazardous and chemical waste from different laboratories generated is disposed off in dustbins and normal drains carrying the sewage and others. A comprehensive plan on 'Hazardous Waste Management Program At IIT Roorkee' was prepared by Prof BP Vellanki. Thereafter, with the approval of Director, Estate and Works prepared a plan with cost estimates for storage in the campus before disposal to Treatment, Storage, and Disposal Facilities (TSDF). Safety office wrote to Uttarakhand Pollution Control Board requesting the authorization for storing and disposal to TSDF. No progress on the matter has been reported since then this regard. Prof Vellanki mentioned that such approval from state Pollution Board is not required under present *Hazardous Waste Management Rules 2016*. It was decided that the matter shall be discussed by Dy Director with safety office and Prof Vellanki and shall be taken up for further action.

.Ms. Dyutisree Haldar raised a concern on the increasing use of one time use hand gloves and masks in hostels due to COVID-19 and their safe disposal. ADOSW (Bhawan and Mess) shall look into the matter and provide adequate bins for its safe disposal.

A student representative from Saharanpur campus shall be co-opted on the green committee.

For the next meeting, Prof In charge from GNEC Campus to be invited to the Green committee.

Meeting ended with the vote of thanks to the chair.