

**Minutes of the Meeting of the Core Group of RuTAG IIT Delhi held on
September 02, 2015 in the CRDT Committee Room, Block-III, Room No.
290, IIT Delhi**

Sept. 10, 2015

A meeting of the Core Group of RuTAG IIT Delhi was held on September 02, 2015 in the CRDT Committee Room, IIT Delhi under the chairmanship of Prof. R. R. Gaur. Following people were present:

- Prof. R. R. Gaur, Chairman, Core Group, RuTAG, IIT Delhi.
- Major S. Chatterjee, Senior Project Consultant and Member, Core Group, Office of the PSA, Vigyan Bhavan Annexe, New Delhi.
- Prof. Rajendra Prasad, Co-PI, RuTAG, IIT Delhi.
- Prof. V. K. Vijay, HoD, CRDT and Co-PI, RuTAG IIT Delhi.
- Dr. D. Raghunandan, CTD, New Delhi (NGO Expert)
- Prof. Sangeeta Kohli, PI of the project on “Improvement of Furnace for Bangles Making and Improving the Working Conditions of Artisans.”
- Dr. Jitendra P. Khatait, PI of the project on “Design of Treadle Pump using Solar Power.”
- Dr. Ajit Kumar (IGNOU), PI of the project on “Improving the Design of Bullock Driven Tractor to make it more users friendly.”
- Prof. A. K. Gosain, PI of the project on “Design and Development of a Low Cost Ground Water Level Measuring Device.”
- Prof. P. M. V. Subbarao, PI of the project on “Ultra-Micro (Pico) Hydrel Power Package for Rural Applications.”
- Mr. Sankalp, Research Scholar, Civil Engineering.
- Mr. Ankit Singhal, Research Scholar, Civil Engineering.
- Mr. Raj Kumar Gupta, Senior Project Assistant, RuTAG, IIT Delhi.
- Mr. Davinder Pal Singh, Senior Project Assistant, RuTAG, IIT Delhi.
- Mr. Mangal Sharma, Project Attendant, RuTAG, IIT Delhi.
- Prof. S. K. Saha, Coordinator/PI and Convener, Core Group, RuTAG, IIT Delhi.

Prof. S. K. Saha, Coordinator/PI and Convenor, Core Group, RuTAG, IIT Delhi welcomed the Chairman, Members of the Core Group and the participants. With the permission of the Chairman, Prof. Saha started the proceedings of the meeting.

Agenda item No. 1: Confirmation of the minutes of the last meeting of the Core Group

The minutes of the meeting of the Core Group of RuTAG, IIT Delhi held on February 09, 2015 were already circulated to all the members/participants of the Core Group. No comment was received. Hence, the minutes of the last meeting were deemed as confirmed.

- **Status of On-going Projects:**
- **Technology Standardization and Development of Testing-cum-Training Facility for Ultra-Micro (Pico) Hydel Power Package for Rural Applications.**
PI: Prof. P.M.V. Subbarao.

Prof. S. K. Saha briefly gave the background of the project and decision taken during the last core group. Prof. P. M. V. Subbarao told that after PRMC meeting, the design modification for the under shoot turbine have been completed and fabrication is under way. He mentioned that he is trying for the funding from Power Grid, UNDP and others for completion of the project.

Major S. Chatterjee informed that during second PRMC meeting held on Nov. 14, 2014, it was decided to consider the project closed. Accordingly, completion report was submitted to the PSA's Office. He mentioned that Prof. Subbarao can approach other funding agencies for further financing of the facility created under RuTAG IIT Delhi.

Prof. Rajendra Prasad agreed that RuTAG is not a major funding agency as per its mandate. Therefore, to complete the existing project financial support from the any other agency is acceptable. RuTAG will however collaborate in terms of spreading the awareness of the technology.

Decision: The Chairman agreed that project should be considered closed. He mentioned to meet Prof. Saha and Prof. Subbarao for a common meeting.

- **Improvement of Furnace for Bangles making and improving the working conditions of Artisans.**
PI: Prof. S. Kohli, Co-PIs: Prof. M. R. Ravi, Prof. S. K. Saha

Prof. Sangeeta Kohli told that mathematical calculations were carried out for the optimum fluid flow and heat transfer. A team of 4 persons (Major S. Chatterjee, Prof. S. Kohli, Mr. Davinder Pal Singh and Mr. Raj Kumar Gupta) visited Kanahyalal Tandoor to observe the manufacturing technique of the Tandoor. Two weeks work is pending to complete the furnace before the artisans from Bharatpur can be called for testing the furnace and sitting arrangement. Six months' extension till January 31, 2016 was sought.

Decision: The Chairman appreciated the above said work. The extension till January 31, 2016 was agreed.

- **Improving the Design of Bullock Driven Tractor to make it more users friendly.**
PI: Prof. Ajit Kumar, IGNOU

Prof. Ajit told that BDT was tested using tractor in Micro model. Working of universal joint was unsatisfactory. Two mechanisms (ratchet and pawl, winch and rope) broke

during testing. Therefore, redesign is required before testing at Micro model and in Dahina village. An extension was required for 6 months.

Decision: The Chairman suggested to speed up the pending work. The extension till January 31, 2016 was agreed.

- **Design of Treadle Pump using Solar Power.**
PI: Dr. Jatendra Kahtait, Co-PI: Viresh Dutta.

Dr. Khatait explained the ongoing testing of the prototype of Solar Treadle pump sent by the IDEI. He mentioned that prototype was modified using locally available standard hand pump parts and tested. Flywheel design calculations are underway. Extension was sought till January 31, 2016.

Decision: The Chairman strongly insisted to focus on the objective and the deliverables of the project. He indicated that real utility of the system must be studied from broader applications point of view. He also mentioned to conduct comprehensive tests for all the parameters. Extension was agreed.

- **Adaptation of Sheep-hair Shearing Machine Developed by IIT Delhi.**
PI: Prof. S. K. Saha

Prof. S. K. Saha told the committee that a workshop was conducted on March 03, 2015 at Rampur, Uttarakhand. Six members from Central Wool Development Board, Uttarakhand including 2 Veterinary doctors and 3 shearers were also present. Shearers appreciated the performance of the machine developed by IIT Delhi. The project is declared closed. However, a project proposal for indigenous manufacturing of complete set of motor, hand piece, flexible drive, comb and cutter etc. has been submitted to CWDB, Jodhpur. Besides, the 2nd phase of the project under RuTAG is envisaged for six months where another training is expected to be held in the month of October 2015 at Rampur/Phata, Uttarakhand.

Decision: Chairman appreciated the work and insisted on handing over few complete set of shearing machines to the NGO as a part of the 2nd phase of the project under RuTAG IIT Delhi.

- **Proposed New Project:**

- **Design and Development of a Low Cost Ground Water Level Measuring Device.**
PI: Prof A. K. Gosain (Dept. of Civil Engineering.)

Mr. Sankalp research scholar under Prof. Gosain explained about the various methods and devices used for measuring the ground water level. He mentioned that the objective of the project is to develop low cost and reliable ground water measuring

device. Therefore he will modify the design of the existing device which is used by the NGO and also procure and test the selected device. The estimated budget is Rs. 1.5 lakhs.

Decision: Chairman approved the proposed project.

- **Reporting:**

- **National Institute of Technical Teachers Training and Research (NITTTR), Bhopal, Madhya Pradesh on April 17, 2015.**

RuTAG IIT Delhi conducted a regional workshop on April 17 2015 at National Institute of Technical Teachers Training and Research (NITTTR) Bhopal, Madhya Pradesh with the help of Madhya Pradesh Vigyan Sabha (MPVS). The program was attended by about 33 participants from about 10 NGOs, and others.

As a follow-up of the workshop, Mr. Raj Kumar Gupta visited Madhya Pradesh Vigyan Sabha (MPVS) on August 18-20, 2015. Intervention is required in the following devices:

- **Chironji Decorticator**
 - **Honey Filtration (Sives):** Approach Dr. Saha in CRDT, IIT Delhi.
 - **Sisal Fiber Exerting Machine**
 - **Sisal Fiber Yarn making Machine**
 - **Gypsum:** Look for a faculty in Civil Engineering Department.
 - **Clay:** Dr. Raghunandan will look into the matter.
- **Status of Training Programme about manufacturing of Low Cost Sanitary Napkins at Ghandhigram, Dindagul, Tamilnadu from March 16-20, 2015.**

Five days training Programme of Sanitary Napkin at Madurai Gandhigram Trust, Dindigul, Tamilnadu was held during March 16 – 20, 2015. The programme was attended by 5 members of 3 following NGOs from Jammu, Bikaner, and Bistupur.

- Mr. Arindam Mondal came from KIIT School of Rural Management, Bhubaneswar to RuTAG IIT Delhi for two months. He prepared two Business models (Treadle Pump and Tulsi Mala making device).
- Few students from RuTAG Club at IIT Delhi visited Balaghat, M.P. during the summer holidays
- Shrey Gulati B. Tech, a student under Prof. Sangeeta Kolhi won the joint first prize in Open House for their contribution on Bangles making furnace.

- Management Training Programme at IIT Delhi is planned during Jan. 2016. Dr. Nomesh will conduct management training programme during Jan 2016. Prof. Gaur mentioned to invite experts form the fields as well.
- Four day training programme for manufacturing of *Tulsimala* making device is planned during Nov. – Dec., 2015 at IIT Delhi.
- Impact study of Tulsi Mala making device. Two B Tech students (Mr. Mohit Chaudhary and Mr. Golu Aggarwal) under Dr. Richa and Dr. Nomesh Bolia conducted impact study of the Tulsi Mala making device.

The meeting ended with vote of thanks.

(Prof. S. K. Saha)
Coordinator/PI, RuTAG IIT Delhi
