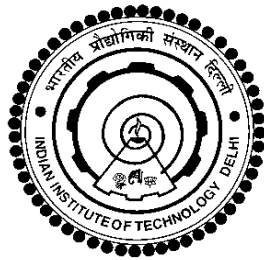


*Report on the*  
**Regional Workshop by the RuTAG IIT Delhi**  
**at**  
**State Resource Centre**  
**Jhalana Institutional Area**  
**Jaipur, Rajasthan.**  
(November 6, 2014)



By  
**Prof. Subir Kumar Saha (P.I)**

**Department of Mechanical Engineering**  
**IIT Delhi, Hauz Khas**  
**New Delhi 110 016**

Tel: (011)2659 1135; Fax: (011)2658 2053  
Email: saha@mech.iitd.ac.in

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## Preamble

RuTAG-IIT Delhi conducted a regional workshop on November 6, 2014 at State Resource Centre, Jhalana Institutional Area, Jaipur, Rajasthan with the help of Indian Institute of Rural Development (IIRD), Gaj Path, opposite Fun Kingdom Mansarovar, Jaipur 302020. The program was attended by about 46 participants from about 21 NGOs, 3 Faculty members, 3 Ph.D, 3 M. Tech., and 12 B. Tech. Students from MNIT Jaipur and 4 RuTAG team member (copy of the attendance sheet is attached in Appendix-1).

### 1. Inauguration Session

As per the attached schedule (Annexure-2), the program started with the welcome address by Prof. S. K. Saha, (Coordinator/Principal Investigator of RuTAG-IIT Delhi). See Fig. 1. He briefly explained about the agenda of the workshop and introduced RuTAG IIT Delhi. He also mentioned the role of Indian Institute of Rural Development in hosting and coordinating the workshop and invited Mr. Pramod K. Paliwal of (IIRD), Jaipur to welcome all the participants. Mr. P. K. Paliwal briefly mentioned about the activities of his organization and welcomed all the participants, as seen in Fig. 2. The program continued with the round of introductions of the participants.

After the inaugural session, Mr. Raj Kumar Gupta (workshop coordinator) seen in Fig. 3 invited Major Chatterjee for technical session 1.



Fig. 1 Prof. S. K. Saha, Coordinator of RuTAG-IIT Delhi welcome the participants



Fig. 2 Mr. Pramod K. Paliwal, IIRD Jaipur, Rajasthan

## 2. Technical Session 1

Major S. Chatterjee, who is the Senior Project Consultant of RuTAG-IIT Delhi and represents the central RuTAG from the office of the PSA (Fig. 4) mentioned about the objectives and mandate of the RuTAG Programme. He explained different technologies developed at various RuTAG Centres. He highlighted a few technologies, e.g., Improved Sanitary Napkins, Coir rope making machine, Jute rope making machine, Pern winding machine, Foot operated Amber charkha, Muri making machine, Sabai grass rope making machine, Foldable bridge over irrigation canals, Bageshwari charkha, Multi nutrient compressed feed block making machine for yak, Activated charcoal from bamboo, Tricycle for physically challenged persons and the recently developed retractable foot bridge developed by Research & Development Establishment (RDE) Pune (a DRDO Lab).



Fig. 3 Mr. Raj Kumar Gupta, RuTAG – IIT Delhi



Fig. 4 Major S. Chatterjee from RuTAG-IIT Delhi and the office of the PSA

In the same session, Prof. S. K. Saha presented several completed and on-going projects at RuTAG IIT Delhi (Fig. 5). He categorized the projects under Energy, Agriculture, Food Processing, Empowerment, and Human Resource Development. He explained about animal driven gear box, bullock driven tractor (old and new), treadle pump, solar pump, dehiscing of minor millets, garlic processing machines like graders, bulb breaker, flaker, dry garlic peel remover, fru wash technology developed by Prof. H. M. Chawala, Tulsi Mala making machine, improvisations going on in Bangles making such as furnace, tools, seating arrangement, etc.



Fig. 5 Prof. S. K. Saha, presenting work done by RuTAG IIT Delhi

### 3. Technical Session 2

Technical Session 2 was conducted by Major Chatterjee. Participants explained briefly about their organisational activities and problems, 8 participants explained with the help of power point presentations. These are as follows:

- i. Mr. B. D. Sharma, Head, Division of Crop Production, Central Institute for Arid Horticulture, Bikaner, Rajasthan.

**Presented on:**

- Technology Upgradation needed in micro-irrigation and fertilization systems.
- Explained about micro-irrigation technology such as micro-sprinklers, misters, foggers, bubbler and automated drip with fertigation.

**Intervention required:**

- a. Low cost PVC and HDPE pipes for micro-irrigation systems.
- b. Clogging free dripper for smooth running of micro-irrigation systems.
- c. Low cost and simple system for fertigation.
- d. Rat and bird proof pipes for micro-irrigation.

**IITD Remarks:**

- Check with IDEI about items a-d.
- Search with net (Mr. Raj Kumar Gupta), Technology of micro-irrigation – Innovative to Impact (I2I), Village-Simar, Distt.- Khurda, Bhubaneswar.
- Based on above information from IDEI invite Mr. B. D. Sharma for further discussion.

- ii. Mr. Bhupindra K. Paliwal, Ram Krishna Jaidayal Dalmia Seva Sansthan, Shri Ramkrishna Dalmia Sports Complex, Station Road, Chirawa-333026, Rajasthan.

**Presented on:**

- Rain water harvesting technologies and plantation

**Intervention Required:**

- a. Low cost automatic Piezo-meter.
- b. Sensor based-fluoride and nitrate testing device (like TDS meter).
- c. Chlorination of stored water – Govt. buildings.
- d. Quantification of agriculture water.
- e. Technology for fast re-charges.
- f. Low cost machine for measuring water table.

**IITD Remarks:**

- **Mr. Sukhbir Singh** (Phone no.- 05962 - 241008, 241008), Senior Scientist, Vivekananda Parvatiya Krishi Anusandhan Sansthan (VPKAS), Almora was contacted for possible solution. He will give the contact number of concerned person for above items c and d.
  - Share the above information from Almora with Mr. Paliwal.
  - Search internet (Mr. Davinder Pal Singh).
  - Invite Shri Paliwal for more detailed discussion and plan a field visit.
- iii. Mr. Mota Ram, Social Action for Rural Advancement (SARA), Village Laxmipura, tehsil Danta Ramgarh, distt. Sikar, Rajasthan-332742.

**Presented on:**

- Science and technology innovation for rural community.
- Rain Water Harvesting, Solar powered lantern.

**Intervention Required:**

- a. Solar light embedded in helmet.
- b. Rain Water Harvesting (low cost water storage systems).
- c. Establishment of workshop with equipment to manufacture solar lantern.
- d. Development of business module for marketing of solar lantern.
- e. Enhance the life of solar lantern and cost reduction.

**IITD Remarks:**

- Vivekananda Parvatiya Krishi Anusandhan Sansthan (VPKAS), Almora shall be contacted for possible solution of Rain Water Harvesting. RuTAG IIT Bombay has also been experimenting on possible storage systems.
  - Search internet for items a,c,d,e and f (Mr. Raj Kumar Gupta).
- iv. Er. Tulsi Ram Suthar, Old fatehpura, Udaipur-313004, Rajasthan.

**Presented on:**

- Eco-San Toilets. A sanitation alternative for dry region.

**Intervention required:**

- a. Better toilet design for poor.
- b. Better waste disposal System.

**IITD Remarks:**

- Toilets designed by DRDO may be looked at.
- Search internet of above items (Mr. Davinder Pal Singh).

- v. Prof. K. L. Kothari, Vigyan Samiti (Udaipur), Road no. 17, Ashok Nagar, Udaipur 31001, Rajasthan.

**Presented on:**

- Work done by Vigyan Samiti on popularization of science and technology.
- Women empowerment, Mushroom cultivation, Vermin composting, Medicinal Plants.
- Transfer of technology of crop cultivation like maize, wheat, pulses and vegetables.
- Vaccination of animals.

**Intervention required:** Not mentioned

**IITD Remarks:**

- RuTAG IIT Delhi needs to contact Prof. K. L. Kothari to which types of Intervention is required.

- vi. Dr. K. L. Menaria, Rural Technology Development Cell, Vigyan Samiti, Road no. 17, Ashok Nagar, Udaipur-313001, Rajasthan.

**Presented on:**

- Optimization in treatment of ground water for removal of fluoride in rural area south Rajasthan. Activities and milestone of Vigyan Samiti such as modified Nalgonda technique to adjust dose for each sample of water.

**Intervention Required:** Not mentioned

**IITD Remarks:**

- RuTAG IIT Delhi needs to contact Prof. K. L. Kothari to which types of Intervention is required.

- vii. Mr. Arvind K. Ojha, URMUL Rural Health, Research and Development Trust Trust, URMUL Bhawan, Bikaner, Rajasthan.

**Presented on:**

- Information of URMUL Trust initiated by URMUL Dairy (Uttari Rajasthan Cooperative Milk Union Ltd.).
- Works in regions of Thar desert in rural Rajasthan.

**Intervention Required:**

- a. Solar light embedded in head gear such as helmet, etc.

- b. Ground nut extracting device
- c. Business module for Ceramic clay which is available in abundance in that region
- d. De-silting of canals.
- e. Water channel covers.
- f. Rope making machine from Grass.
- g. Interested in the technologies of Sanitary Napkins and Pern Winding Machine

**IITD Remarks:**

- Search internet of above items (Mr. Davinder Pal Singh).
- Invite Shri Ojha for detailed discussion and follow up with a field visit.

- viii. Dr. Swati, Lupin Human Welfare & Research Foundation, 160, Krishna Nagar, Bharatpur, Rajasthan.

**Intervention Required:**

- a. Further improvement required in the Tulsi mala beads making device.
- b. Dari making loom.
- c. 20 ltrs. rotor for fish hatchery.
- d. Reduction in weight of MNRE certified cook stoves.
- e. Noise reduction for biogas operated pumps.

**IITD Remarks:**

- RuTAG IIT Delhi needs to contact the users at Bharatpur and then call them to identify the problem (discuss in particulars about problem).

- ix. Dr. C. S. Sharma, Krishi Vigyan Kenndra, Sangaria, Gramotthan Vidyapeeth Hanumangarh, Rajasthan

**Intervention Required:** Not mentioned

**IITD Remarks:**

- RuTAG IIT Delhi needs to contact Dr. C. S. Sharma to which types of Intervention is required.

- x. Dr. Amit Singh, MNIT Jaipur, Rajasthan

**Presented on:**

- Prosthetic legs



**Intervention Required:**

- White Light Scanning Technique for limb manufacturing

**IITD Remarks:**

- Search internet of above items (Mr. Davinder Pal Singh).

- xi. Mr. Devang A. Darode, Aurobindo Hostel, Room No.- AB – 405, MNIT Jaipur, Rajasthan

**Presented on:**

- Several problems seen in the village.

**Intervention Required:**

- a. Cotton extracting machine.
- b. Paddy transplanting machine at low cost.

**IITD Remarks:**

- Search internet of above items (Mr. Raj Kumar Gupta).

**4. Concluding Session**

After listening to all the above problems, Major S. Chatterjee told the participants that RuTAG IIT Delhi will analyse all the problems. Selection of the problems will be done according to the mandate of RuTAG. Selected NGOs will be either called upon or RuTAG IIT Delhi team will visit for detailed discussion on the problem. Prof. S. K. Saha and Mr. Promad K. Paliwal thanked all the participants.

The representatives of RuTAG IIT Delhi have discussed the presentations made by the NGOs and the comments received during the discussion. The remarks have appeared under “IIT Remarks” after the discussion of every presentation. It is expected that some of them can be considered as the new projects for the next phase of RuTAG IIT Delhi during 2015 – 2018.

For suggestions and enquiry, kindly contact Mr. Raj Kumar Gupta (E-mail: rajkumarddr@gmail.com), Mr. Davinder Pal Singh (E-mail: keeratiit@gmail.com), RuTAG IIT Delhi office, Room No.– 343, Block – III, Hauz Khas, New Delhi – 110016, Phone No.- 011-26591385

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