

Vigyan Ashram Status Report

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- Group Monitoring Workshop of DST @ Deharadun
- Advanced electrician Training @ Manchar
- Designing of Grey water Recycling system @ Ashram

A] REDX club inauguration

REDX club provides platform for young inventors innovating for billions. The club will work in the area of Artificial intelligence and Machine learning. Vigyan Ashram got REDx club license. REDx clubs are started by MIT Prof.Ramesh Raskar and they are all over the globe.

Vigyan Ashram's REDx club is launched on inaugurated on 9th Feb at DIY Lab. Approx. 20 engineering college students joined REDx club. They will undergo six months course and learn about AI by working on locally relevant problem. We have selected Agriculture and post-harvest technologies as focus area for VA-REDx club. Mentors from Digital Impact Square (DSIQ) will mentor club members.

We have organized lecture of AI experts Mr.Rahul Kulkarni on 19th Feb at Pabal. It helped students and VA team to get introduced to different concepts in AI and machine learning. Updates about REDx activities is available on : <https://vigyanashramredx.wordpress.com/blog/>



B] GMW @ Dehradun : Dept of Science & Technology (DST) has organized review of all its core supported organization at FRI, Deharadun on 5th and 6th Feb. Yogesh, Ranajeet, Suhas and Shubham represented VA. This is our concluding presentation of 2nd phase of core support. We have also made proposal for 3rd phase.

We had exhibited Dome dryer, Braille printer, Aero Sense, Auto farm beside concept of 'Fab Village' in the technology exhibition. Secretary, DST and various experts visited our stall and discussed our projects. Yogesh anchored the brain storming session on 'Technology Innovation and up-scaling for rural transformation'.



Ranajeet explaining Dome Dryer to Secretary, DST

Ranajeet and team also used this opportunity to visit 'Bamboo Tissue culture' department of FIR; WWF and discussed new ideas.

C] Gandhi Vigyan Sammelan, Wardha :

Vigyan Ashram participated in the Gandhi Vigyan Sammelan organized by National Alliances of People's Movements at Wardha from 28th Feb – 2nd March. We had participated in the exhibition as an associate organisation. Dr.Arun Dixit gave talk on VA's efforts to implement 'Nai Talim principles' at University level. Amol and Sunny exhibited our technologies in the exhibition. We have made first sale of individual composter in the exhibition.



D] Technology Development & DIC Progress :

i) Grey water recycling system:- We are installing Grey water recycling system from the support received from Bajaj foundation. In the designing phase, Sonal completed prototyping of the system. We have successfully minimize COD of kithen water from 320 to 50mg/L in 5 days with the help of air bubbling and hysinth plant. Sonal and Akshay also visited 'Govardhan Eco-village' on 14th Feb to study their Grey water recirculation system. Based on all inputs and our experience, they are designing system for 1000 liter/day kitchen grey water.



Presentation at La fondation

ii) Dr. Arun dixit, Akshay and Siddhesh presented composting project at La Fondation's Annual Technical Conference at 3DS R&D Centre on 21st Feb. We have presented development journey of composting project. Presentation video on the link:

<https://www.youtube.com/watch?v=cJAIXMukNb4&feature=youtu.be>

iii) Sonal along with VA team visited Shree Biotech plant tissue culture lab on 2nd Feb. We are planning to setup tissue culture lab at Pabal. We are studying ideal lab setup and our own requirement under guidance of Mrs Alpana Vijaykumar.



Visit to Shree BioTech

iv) Aquaponics updates: Aquaponics trial was concluded in January. We have removed setup to redesign & re-build for new trial after monsoon. Key highlights of previous trial was –

- Trial was of 7 months (June to December) with Vietnamese Koi + Grass carp fish farming.
- Total of 800 koi fish (fingerlings of 2 Gm) and 40 Grass carps (Yearlings of 35 to 40 Gm) were raised to grow up to

marketable size. Total biomass of grown in 7 months was 73 Kg out of which 42 Kg sold in market (remaining are released to big fish tank).

- For raising 73 Kg fish we used 147 Kg of fish feed with FCR of 2.01 (feeding of azolla was not recorded). Its good achievement considering FCR and overall koi farming experience.
- We faced difficulties in motor (pump) failures, tank & bio-bed leakages and difficulties in raising due to seed infection to koi & its cannibalism nature.

v) Fish tank fabrication: We have taken work on contract to fabricate aquaponic system for organization M/S Jaljeevika near Aurangabad. This tank is designed by DIC students and fabricated & installed by 5 DBRT students' team on 6th Feb. Tank is of 1.25 Lakh liter capacity. We will be designing plumbing and water circulation system for them.

vi) Polyhouse construction work – Old polyhouse was dismantled. We are rebuilding old polyhouse with better climate control systems. It will be completely closed with fan & pad system.

vii) Solar cooking device - Nachani roaster is installed at Shahid Rajguru Sahkari Santha, Faloda, Bhimashnkar.



Water Tank Fabricated for Jaljeevika

E] IBT Update :

i) IBT practical exam by SSC board was held from 18th – 28th Feb. External examiners appointed by SSC board visited schools to conduct exam. This was the first exam after revised syllabus.

ii) Total 4 video conference lectures were conducted in Feb 2019. Total 1354 students benefited from 32 schools. Details are as follows: Mrs Supriya Kadam(DOL starter – 2nd Feb) ; Mr.Suyog Warghade (Motor and Pump principles – 9th Feb) ; Mr.Suhas Labade (Inverter – 16th Feb) ; Mr.Amol Khamkar (Petrol and Diesel Engine – 23rd Feb)

F] Chattisgarh IBT :

i) IBT -CG is in financial problem due Non release of funds by Dantewada administration. With new Govt in CG State and new collector in Datewada, they wanted to review all old projects. Sachin visited Datewada from 5th and 8th Feb and gave all progress reports and accounts to Govt officials and briefed collector and CEO about the program. It was also informed them that Vigyan Ashram will withdraw its staff from the field from 28th Feb if funds are not released.

ii) Innovation Lab -Palnar is also facing similar problem. We have informed collector to expedite review



process. We have also decided to stop operations of innovation lab from 28th Feb until next release of funds. Accordingly, we have handed over Palnar innovation lab to District administration on 28th Feb.

iii) IBT instructor and Adhikshak meeting was organized on 7th Feb 2019. Total 56 people (35 instructor, 9 Adhikshaks, 10 CAC staff) participated in the meeting. Various issues in implementation were discussed.

iv) Sachin visited schools in Tamilnadu from 11th to 13th Feb. It was final year of monitoring and support of the project. It was supported by ILFS-Nalanda foundation. They have expressed their inability to continue support due their own operational problem. We have taken meeting of all school principals and handed over IBT program to them. Vigyan Ashram will continue to provide technical support.

G) IBT Highlights :



From clockwise : 1) Dust bin by IBT-Nagaj 2) Vermi compost bed - Padsare 3) Blood group camp - Aichale 4) Bench repairing - Pabal 5) Terrace garden - Shirwal 6) Street light repair - Bori 7) @ center : Cooler at Pabal IBT school

H) DBRT News :

i) DBRT students participated in the Science exhibition at GMRT, Khodad on 28th Feb and 1st March. We have displayed our projects in the exhibition.

ii) **Advanced Electrician Instruments Training** was organised on 1st Feb at Manchar. Total 68 participants including 24 wiremen, 5 electrical instructors, 37 electrical students attended the training. Training was supported by M/S Megger. Mr. Anant Waghchoure from Megger and Mr. Prakash Shah from Arn Vidyut Shala were main resource person.



Training for Advanced Electrician

iii) **PCB Design Training : Komal and Vishal** arranged two-days “PCB milling” workshop for first year students (Electronics

department of Govt College of Engineering, Awasari) on 20th and 22nd Feb. They were introduced with Eagle software and SRM 20 milling machine. Total 30 students participated in the training.

iv) Poultry farm update- We have started selling poultry birds. So far 96 birds out of 112 were sold @ Rs.65 of average price. We are planning to start fresh batch with RIR or any other improved local breed.

v) Tejas successfully fabricated & tested micro-green production kitchen table top model. He has to modify it for temperature and light intensity issues.

vi) DBRT Diary : Visit to Rajgurunagar nursery (22nd Feb), Polyhouse dismantling work ;



Work on site : Farm Tank

Plantation of $\overline{\text{आळू}}$ in grey water

outlet, fabricated 10 new cots for dormitory, fabricated 25 bulb guard, Fish tank fabrication; prepared recipe for Mahua Ladoo from flowers received from Gadchiroli; Food Stall in Pabal Yatra on 18th and 19th Feb. Pedestal DC fans are fitted with adapter for AC supply and installed in all section, 15 CFL bulbs are replaced with LED bulbs

I] Entrepreneurship Accelerator

i) Skills and Entrepreneurship awareness workshop was organised on 4th and 5th Feb for students of Bhairvanath College, Pabal. Total 61 students participated in the training. They were given training making cake, 3D printing and making You tube video and Wikipedia.

ii) Agrowon article (Gramin Udyojak) – Article of Kamlesh Hivre (DBRT 2006-07) batch student published on 4th February 2019

J] DIY Lab and Fab Academy Progress :

i) Experimental school Gram Mangal, Pune has decided to send their students to DIY lab once in week. There will be 10 students in a batch and there will be 3 batches in a week. Similarly, NGO Sivkalyan Sanstha will conduct workshop for their students at DIY. Workshop this month : Gram Mangal - 12th, 13th and 15th Feb, 18th, 20th, 22nd, 26th and 27th Feb; Shivkalyan on 19th Feb

ii) Fab Academy and Fabrik Academy activities are at its peak. Students have completed Computer controlled machining, Electronics production and 3d scanning and printing assignments. They made various objects using 3D printing and flexible design using laser printing. Harshada worked on Handloom in Chikhali school to learn art of weaving from cotton tread.



Fab Academy 2019 in progress

KJ Other tit-bits –

i) We have placed order to install 6.5KW on grid solar system. We have got additional load sanctioned from MSEB and took offer from different suppliers. Finally, we placed order on Gram Oooja Pvt Ltd. We have got financial support from Eaton foundation.

ii) Rahul attended meeting of newly constituted IIE Co-ordination committee meeting on 22nd Feb and presented budget of VA for 2019-20.

iii) Wiki Project : Project Manager of Centre for Internet & Society-Access to Knowledge Program Mr. Titto datta and Mr.Subodh Kulkarni visited vigyan ashram on 14th Feb. 2019. Objective was to review Marathi Wikipedia project and plan for next project. It is decided to conduct one day awareness workshop, 3 days Wiki Editor workshop beside community awareness activities.



Wikipedia team with Mr.Titto Datta

iv) Our Plasma machine was not working from

last 4 months. A meeting was held with supplier RVS Technologies on 12th Feb. After the meeting manufacturing company ESAB Technologies Ltd. promised to replace the machine with new Cut-master A40. The machine was dispatched and hopefully plasma will become functional from next month.

v) We are thankful to following donors for their support to VA : Kusum Soham Parivar, Smt.Smita Kulkarni, Smt.Arati Annad Khare, Ms.Swati Shrikant Joshi, Mr.Rohan Surve, Smt.Preeti Rahul Vartak, Smt.Malvika Abhijit Vaidya, Mr. Subhash Hari Vaidya, Mr.Gaurav Pramod Ulagikar , Smt.Deepali V.Gadgil : 500/-

vi) Weather record – Rainfall – 0 mm : Total 350mm (June to Feb) ,Max temp- 36 °C, Min Temp – 13°C , Humidity – 49 % , Water height in well – 7.32 mtr.

vii) Energy consumption record- Electricity unit – III Phase- 947 unit, I Phase- 971 unit.

viii) Quality of power: Number of interruptions: 114, No power: 38.46 hrs. Normal voltage: 86.6 % , High voltage : 0%, Low voltage : 8.81 % , No supply : 4.99 % , No data : 0 %

ix) Biogas consumption – Dung used- 127 kg, Gas produced- 11.57 m³

x) Two-wheeler usage: Not available kms

xi) Online visitors : www.dsttara.org – 933 (New visitor –799 Repeated- 134) , www.vigyanashram.com – 1235 (New visitor – 1058 Repeated-235) ,www.vigyanashram.wordpress.com – 995 (Visitor-582 Viewers-413)

Data Report : For Regular update: www.facebook.com/vigyan.ashram.pabal

https://drive.google.com/open?id=1IleNW_Lmsb6V_x4i6mnXCB9bFTf94e8Y

Our sites : www.learningwhiledoing.in , www.dsttara.in , www.vigyanashram.wordpress.com , www.vadic.wordpress.com , <https://ruralstartup.wordpress.com/>

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Photo Gallery :



3D printed strainer for kitchen sink by Akshay



Due to drought we have donated our cow to farmer Yuvaraj Ugale from Dimbhe



Polyhouse reconstruction



DST GMW presentation



DBRT students @ Khodad exhibition



Study Visit to Govardhan Eco village