

Vigyan Ashram Status Report

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A] On the spot Assessment of DST Core Support Project

We are getting financial support for technology development activities from Dept of Science and Technology (Govt of India). It was a long-term support for 5 years. Second phase of 5 yrs support to Vigyan Ashram came to an end in March 2019. An expert committee appointed by DST visited VA on 24th and 25th April to do on-the-spot assessment and also to do on field assessment of 3rd phase proposal submitted by VA.

Committee comprises of following members : - Dr.Datta (Head, SEED Division), Dr.Sunil Agarwal (Scientist E, -Core support program, SEED div, DST,) Dr.Chanakya (IISc, B'lore), Dr.Sudha Nair, Dr.Amrinder Das (IIIT-Guwhati), Dr.Priya Jadhav (IIT, Pawoi), Dr.Ganesh Neelam (Tata Trust) , Dr.Vikram Saraf (S&T Park).



DST Expert Committee @ Vigyan Ashram

On Field Visit 24th April : DST Expert team visited following places and try to understand our approach of development.

- i) Hirkani Vidyalaya, Gawadewadi : We are implementing IBT program in schools as a technology dissemination center to community. We introduce experts to our efforts to introduce agricultural, engineering, food processing related technologies and also digital fabrication viz. 3D printing to students.

- ii) Ganesh Fabricator : They discussed with our alumni entrepreneur Mr.Ganesh Pawar about his work in fabricating agriculture tools.
- iii) Anil Gadhe : He runs a manufacturing unit in Wagholi. He manufactures Egg incubators developed under core support program.

We have developed Rice Dehusking machine and Dome Dryer under 2nd phase of core support. We have demonstrated both these technologies beside routers and fab lab projects developed under core support.



Demonstration: Dome Dryer



Demonstration: Rice Dehusking

Presentation of 3rd phase proposal: We have made presentation of 3rd phase to DST Expert committee. We have proposed following objectives for core support in next 5 years:-

- i) Integrated farming activities using Farm automation and Artificial intelligence.
- ii) Developing appliances using renewable energy.
- iii) Waste recycling systems: Grey water recycling, composting and plastic recycling.
- iv) Supporting young entrepreneurs
- v) Developing content for school program.



TAP-RISE meeting via video conference: DST Expert committee , VA and Development Alternatives, Delhi on 24th April from Pabal



Discussion with alumni entrepreneurs.

We have included aspirational districts of Osmanabad, Nandurbar and Dantewada under our core project area. We are proposing to focus and extending our program in these aspirational districts as well.

25th April Discussion with alumni entrepreneurs and Startups supported by VA : DST Experts team also met following alumni entrepreneurs on 25th April.

- i) Dhananjay Abhang : Swatchha Gas Pvt Ltd : Provide biogas solutions
- ii) Mr.Pramod Panasae : Srinath Foods : Dried Moringa products
- iii) Mr.Amol Waghmare : Nachani ladoos and rice dehusking at SHG group @ village Falode
- iv) Mr.Khutwad : owner of Rice dehusking machine developed by us and now selling brown rice.
- v) Mr.Pratik Gadkar , Technoventor Pvt Ltd. : Establishing Fab labs and Maker Spaces

We have detailed discussion with experts about 3rd phase objectives. Revised proposal as per their suggestions was submitted to DST. We are expecting their approval by Sept 2019.

VA team was very busy through out the month in preparation of Experts visit since it was presentation of work done in last 5 yrs.

B] Eaton Foundation team visit to VA : Eaton foundation is providing financial support to DBRT, DIC and DIY Lab in Pune. As a part of its annual review, Eaton foundation team comprises of Ms Zaineb and Mr.Ram Choughule visited VA on 4th June. They interacted with DBRT and DIC students and also visited facilities created with the support of Eaton foundation (Rain water harvesting , On grid solar system). Mr.Kiran Inamdar is doing 3rd party assessment of the project. He was also present for the discussion and annual review. We are incorporating suggestion given by experts in the next years annual plan.



DIC team with members of Eaton Foundation

C] Technology Development & DIC Progress :

- i) We have conducted training for two Self-help group member from Falode village (Bhimashankar). They learned to make different product from Nachani on 22nd to 24th April.
- ii) Dr. J. B. Joshi and Dr.Kelkar visited VA campus on 1st April. They gave us guidance of various projects like Drying apparatus, Dome dryer, Azolla production for composting.

iii) 10 agriculture engineering students completed their 4 months internship with DIC. They worked on following projects.

i) Azolla using Biome Dome: Prajakta Pawar	vi) System for converting hard water into soft water: Niranjan Kamble
ii) Sprouter machine: Shraddha Dalvi	vii) Design and fabricate COD digester: Hrishikesh Dalvi
iii) Hydroponic system: Sharveri Dhak	viii) Mechanization of the chopper : Sumedha Khot
iv) System for multiplication of black soldier flies: Pratik Takle	ix) Tray system for composting: Pooja sarfare
v) Modification of pulverizer hopper for the brown matter - Sonal Bhuvad	x) Design and fabrication of dc water cooler: Sudarshan Birangal

iv) DIC students viva/ oral examination was conducted on 30th April 2019.

v) All India DIC Meet 2019 : Dr.Arun Dixit and Ms Sonal participated in ALL INDIA DIC MEET,2019 On 11th and 12th at Dr.Ambedkar International Centre (DAIC),

New Delhi. Total 80 DIC centre (20 hub and 60 Spoke centre) participated in the DIC MEET program. We also had participated in the exhibition and displayed Auto-farm and Aero-sence.

vi) REDx team visited Gangotri biogas -CNG station at Pirangut on 13th April. This is part of exploring application of Artificial Intelligence in agriculture.

vii) Solar dome dryer is installed at Anandghana Industries, Nhavra on 21st April. They are using it for pre-drying of garlic, onion, leafy vegetables etc.

D] ‘Modernization of agriculture training centre project’ (BAJAJ CSR) :

- Water pipe line work- Pipe line work is completed.
- Grey water kitchen – IBC tanks are fitted with siphon based water circulation as reed beds. Cena plants planted in reed beds.
- Polyhouse construction- Fabrication work of polyhouse frame is in progress. Work of 14 traces and foundation layout and 21 column erection was completed by team of workshop & agricultural students.
- Tissue culture lab- Work on getting quotations for lab instruments and furniture is in progress.
- Solar dryer installation – One unit of ‘Dome Solar dryer’ is installed at Sahyadri School near Chas (Rajgurunagar).



Dr.Dixit at DIC Meet @ New Delhi

E] DBRT News :

- i) Megger (I) Pvt Ltd. is providing financial support to purchase advanced tools for Fab Lab and to conduct training for electricians. Ms Anagha Joshi, consultant to Megger visited VA on 22nd April. Objective of the visit is to assess impact of VA activities and take feedback of students.
- ii) DBRT agriculture students prepared Azolla bed at Aai Goat farm, Savindane and Mr.Dadabhau Jadhav's farm.



Students making Azolla bed at farmers place



Fabrication Grey water system

iii) Sewing Lab update :

- A new batch started with 5 girls. They have started learning basic embroidery. They also completed order of embroidery on 3 Safari suit.
- New projects in Lab are → Recycling of old cloths to make new products. 3D print of fabrik ; Interlocking bag ; Jacket using Interlocks.

Documentation is available on

<https://class.textile-academy.org/2019/harshada.raut/>

- iv) DBRT exam was conducted from 16th – 22nd April. Now students are given projects in the sections of their choice. Some of them were placed with our alumni as intern to carry out project work.

- v) Electric section students manufactured two water coolers. Cooler cost is Rs 2900/- per Unit.



- vi) One day soil testing workshop was conducted on 20th April for 15 students of Khodad Vigyan Kendra.
- vii) Food Lab : Order of Pooran Redi Mix – 37 kg ; Moringa Chikki – 5.5 kg , Bread – 20 kg was completed.

F] IBT Update :

i) April was exam month and academic year came to an end. IBT team was busy in submitting annual reports to respective funding agencies.

ii) Highlights : IBT students of Sumari Balbhawan fabricated commando training obstacle equipment in their school. They carried out painting using compressor spray pump.



Fabrication @ IBT school

G] DIY Lab and Fab Academy Progress :

i) Door Step School started sending second

standard student Suresh to DIY lab. He is self-made maker and learned to make many things himself.

ii) We made 3 units of Autofarm in the fab lab. Two of them were installed in Hydroponics and Azolla dome.

iii) Suhas Upgraded CNC router machine with new CAM software Estal CAM. We also added auto tool levelling and surface scanning features in the new machine.

iv) Fab Academy assignments: Students completed assignments on Output devices, Application and Implications and Networking and communication. They have started working on their projects and also preparation for Make-a-Machine assignment.

v) Bamboo Engraver is complete now. This machine is made in the fab lab. It is the machine which can hold cylindrical objects (min 1cm – 7 cm diameter). There is no limitation on length of the object. Further the machine can be customized as per the need of the customer. This machine will be useful for artisans and bamboo article makers.



Bamboo Engraver

vi) We have organised DIY Lab activities promotional workshop on 28th April. There was a workshop for children on 'Making Science Toys'. A lecture by Dr.Yogesh Kulkarni on "Education for Future and parent role" was organized for parents on 28th.

H] Other tit-bits :

i) Drought situation become severe. All water in the well and farm tank got exhausted and Gram Panchayat stopped supplying water to ashram. This month we have purchased 13 water tanker (each tanker of 13500 lit capacity).

- ii) Ranajeet conducted workshop on "How to Teach Science to Primary & Secondary School Students in Rural Maharashtra" for students of UWC Mahendra college on 30th April.
- iii) Agrowon article (Gramin Udyojak) – Article on our alumni entrepreneur Mr.Madhukar Malkari' (DBRT 2014 Batch) was Published on 15th April 2019.



DST official tweeter handle tweets about visit of experts to Vigyan Ashram

iv) We are thankful to following donors for their support to VA : SI group donated 8 used IBS tank for grey water recycling unit, Mr.Atmaram gole, Fulgaon Audyogic Prashikshan Sanstha, Shyam Roghute (Nagpur). SPA Education foundation has conveyed their sanction for our proposal to upgrade DIY lab, purchase of new 3D printer and conducting fabrik academy courses.

v) Weather record – Rainfall – 11 mm : Total 350mm (June to Feb) ,Max temp- 43 °C, Min Temp – 22°C , Humidity – 38 % , Water height in well – 8.5 mtr.

- vi) Energy consumption record- Electricity unit – III Phase- 1230 unit, I Phase- 1280 unit.
- vii) Quality of power: Number of interruptions: 208 , No power: 88.17 hrs. Normal voltage: 82.5 % , High voltage : 0%, Low voltage : 5.63 % , No supply : 11.87 % , No data : 0 %
- viii) Biogas consumption – Dung used- 00 kg, Gas produced- NIL m³
- ix) Two-wheeler usage: Running – 235 Km , Petrol – 5 lit Fuel efficiency – 46 Km /lit
- xi) 54 Students of AISSMS COLLEGE OF ENGINEERING visited VA on 4th and 5th April. 15 students of Akurdi- ACS college.
- xii) Online visitors : www.dstattara.org – 1243 (New visitor –1054 Repeated- 189) , www.vigyanashram.com – 1203 (New visitor – 957 Repeated-246) , www.vigyanashram.wordpress.com – 1068 (Visitor-722 Viewers-346)

Data Report : <https://drive.google.com/open?id=13Mq40Yd0tknCz97-XiqndF5PmBE4W4T->

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

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

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Photo Gallery :



Soil testing training



DIY Lab workshop



DST Experts @ Gawadewadi school



Azolla Biome Dome



DIY Lab : Students camp



DIC Interns project