

# Vigyan Ashram Status Report

Volume 39 Issue 02

February 2021



## Meet DBRT Student on Campus

Swati Verma is from Garhwal (Uttarakhand). She has studied upto 12<sup>th</sup> std. Her school was 8kms away from her village. After her father's demise, she has started tailoring work in her village. She came in contact with Yusuf Meher Ali center. They told her about DBRT program and Swati joined Vigyan ashram in Nov 2020. At present she is learning DBRT course and have dream to start bag manufacturing unit in her village.

## In this issue

- Completed work of Epoxy flooring of Workshop
- Technovision : Exhibition of IBT school projects
- Online: Entrepreneurship Development Program started
- Setting up of Mini Fab Lab @ Mukhai School

## A] Epoxy Flooring of workshop

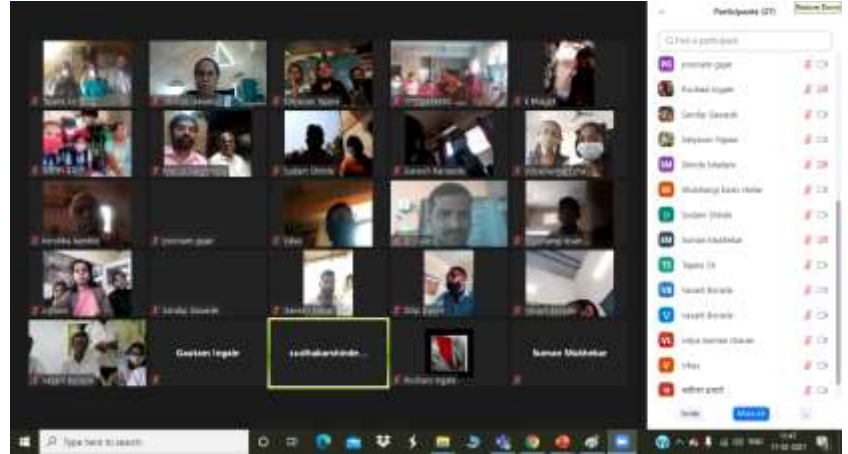
Our workshop flooring was ten-year-old and was worn out. Normally epoxy flooring has a life of 5 years. We had carried out the work from 17<sup>th</sup> – 22<sup>nd</sup> Feb. Before 17<sup>th</sup> Feb, all materials and machines were shifted out. All scrap was segregated and disposed off. Students and staff did Shramdaan for vacating the workshop and again rearranging it. Contract was given to DVR agencies for carrying out the epoxy work. They had conducted training of DBRT students on Epoxy flooring. Students carried out epoxy painting of small patch as a practical. Actual work of main flooring was carried out by technician of the agency. They did grinding off old paint, repairing cracks, cleaning, epoxy painting and bordering work. All machines were shifted back to their original place on 23<sup>rd</sup> Feb. We are thankful to Kusum soham Parivar and SPA Education foundation for their financial support.



## B] Inauguration of Techovation 2021 :

Every year, we are organising exhibition of innovative projects done in the IBT program. Due to COVID, Techovation 2021 event was conducted virtually. Selected 20 projects were exhibited in the exhibition. Theme of the exhibition was 'COVID response'.

Vigyan Ashram team had visited all participating schools and carried out video recording of their projects. All projects were uploaded on portal : <https://technovation.myibtschool.com/>



Virtual exhibition was inaugurated on 26<sup>th</sup> Feb 2021 at the hands of Ms.Shipra Sharma, LTI Director, CSR & Sustainability. After the inauguration portal was opened to visitors. Approx. 6000+ persons were visited the exhibition. They also give their 'liked' vote for projects.

First award was won by 'Automatic Hand Sanitizer Dispenser' project of SDMNP vidyalaya, Chikhali, 2<sup>nd</sup> award – 'Current Leakage Indicator' Adarsh Vidyalaya, Amboli, 3<sup>rd</sup> Award- 'Sprouter Machine' PS Gurukulam, Chinchawad, 4<sup>th</sup> Inspiration award – 'UV Disinfection Box' Indiraji Madhyamik Vidyalaya, Moi. And Special award of Most Liked project was received by Dry Leaves & Grass Grinder for faster composting by SDMNP vidyalaya, Chikhali.

## C] Online Entrepreneurship Development Program (EDP) :

We have started Technology Based Entrepreneurship Development

Program (TEDP) on 1<sup>st</sup> Feb 2021, with

45 participants & Faculty Development Program (FDP) was started on 6<sup>th</sup> Feb 2021 with 35 participants. TEDP has students from engineering colleges as participants. For FDP program, participants are faculty of colleges willing to start Entrepreneurship cell in their college.

Dr.Vijay Talele (CEO, BHAU Institute of COEP) was chief guest for inauguration of both the program. He is appointed as an external observer for both the program by DST.

Dr.Yogesh Kulkarni, Mr.Vyankatesh, Mr.Ranajeet Shanbag, Mr.Kiran Inamdar and Mr.Sachin Punekar will be resource person for the program. These training programs are supported by DST and Praj Foundation



**Real Stories, Real Impact**

**1Step**

**Diwali lantern making for school students**

Our students from Mui high School, Pune as a part of their learning by doing experiments, have designed an ultraviolet tube light based sanitizing device which can disinfect electronic gadgets, currency notes, wallets and other daily use items.

The UV disinfection box is cool, effective, easy to use and harmless. Shradha Talele, a grade 8 student who was a part of the experiment says, "I always like doing electronic projects, this is one of the most interesting experiences to learn the principle of UV light and how it can be used to sanitize various items and keep ourselves safe from COVID-19. Thank you LTI and IBT project."

Our 1Step volunteers from Pune conducted a virtual session on making Diwali lantern using available resources at home for 149 school students, supported under 1Step. Radha Joshi, our 1Step volunteer Pune says, "School students was so excited to learn Diwali lantern being at home. We taught making two types of lantern using balloons and craft paper, easy to make, cheaper and yet so beautiful! Thank you 1Step and Vigyan Ashram for arranging such creative sessions which add value to our society."

**LTI**

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### IBT stories in LTI newsletter

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## D] EDP Hero of the month :



**Ms. Archana Kambale:** Archana has started her poultry farming at Baradgaon Dagdi, Tal-Karjat, Ahemdnagar in the name of 'Kamble Poultry Farm'. The poultry is of Layer breed and capacity of this unit is 600 birds. She has taken training and now getting hand-holding support in EDP program.



**Mr. Pratik Daptari:** Pratik has started his poultry farming at Pabal, Tal- Shirur, Pune in the name of 'Daptari Poultry Farm'. The poultry is of Layer breed and capacity of this unit is 120 birds. He has taken training and now getting hand-holding support in EDP program.

## Field visits

- i) Mr. Vinayak Kelkar, CSR Head, Praj Foundation visited two 2 entrepreneurs on 10<sup>th</sup> Feb 2021. Yamai Food Industries Pvt Ltd. at Kavathe Yamai, Shirur and 'Shrushti Poultry Farm' at Lakhangaon. He gave his feedback and inputs to the budding entrepreneur.
- ii) Sachin Visited new start-up being setup at Bhosari – Shash Infinity Services by Mrs. Sanika Gawade on 21<sup>st</sup> Feb 2021 for mentoring and marketing support.

## E] Technology Development & Design Innovation Centre (DIC) update:

**i)Reducing Input cost of hydroponics:** Akash is working on developing system to reduce fertilizer cost of growing spinach using hydroponics system. In the conventional hydroponics, calcium nitrate (Rs.392.48/kg) is used. Akash has developed a method for converting ammonia (Rs.48.57/Kg) into nitrates with the help of nitrifying bacteria in microbial culture. He has designed a system using moving bio bed reactor (MBBR) system. Initial test results shows that we are able to reduce nitrogen input cost by 88%.

ii) Paper making using Water hyacinth: We have concluded this project as we found it is not financially viable. Though water hyacinth doesn't cost anything but the harvesting cost is more. Further it contains 95% water and therefore not viable option.

iii) Black Water Treatment: Our experimentation with black water treatment is in progress. We have conducted experiment without aeration system. In this system we found the retention time of black water clearance is 22 days.

iv) Tissue culture : We have got some success in controlling contamination of plants. We got good results using Bavistin fungicide along with Tween 20 which is the surfactant. Now we have 44 rose explants without contamination.



**Tissue Culture Plants**

v) Tata engage Volunteers: We have six volunteers from Tata groups helping us on various project. Two of them are working on DIY manual of UV Cabinet. They are working with VA team and guiding us on product standardization steps as well as product development stages followed by industry.

Two other volunteers are helping us to make business plan of our EDP participants. Remaining two volunteers are helping us in designing communication material for our newly started entrepreneurs.

vi) Suhas gave a presentation in front of Expert committee on 22<sup>nd</sup> Feb on proposal to setup Fab labs in tribal schools.

#### **F] Fab Village (La foundation) :**

i) We have got 10 Educational & one premium Licenses from Dassault Systems for Solidworks software. We have installed them on four system.

ii) We have completed DIY design of hydroponics system (<http://vadic.vigyanashram.blog/category/la-foundation/>). A system was fabricated as per the design and installed at Mukhai high school. We gave training to students, staff on using Hydroponics system.

iii) Mini Fab Lab : Work of setting up of Mini Fab lab is in progress. We have purchased and installed Julia Fractal work 3d Printer in Mukhai school. We have also purchased required electronic Inventory.



**Hydroponics structure @ Mukhai school**



**Installation of 3D printer @ Mukhai school**

iv) Composter unit : We have supplied composter unit and stacking rack system to Dassault systems. After delivering the unit, customer has raised various quality issue in the system. Dr.Arun Dixit and Mr Sunny Bansode visited customers site and found the lapses on part of Vigyan Ashram team. We had decided to rework on the system. To get the work done systematically, we have decided to take help of Climber Systems and get fabrication corrected. Composter system was transferred to Climber system's workshop , Sunny worked with Climber team for one week (8<sup>th</sup> Feb – 19<sup>th</sup> Feb) to get the fabrication mistakes corrected. Now we are waiting for visit of customer to approve the corrections.

#### **G] DBRT Skills Training Campus update:**

i) A diploma certification board examination of previous DBRT batch was conducted by National Institute of Open Schooling (NIOS) during 10<sup>th</sup> to 15<sup>th</sup> February. Examination was attended by 15 DBRT students of previous batch. Poor attendance was mainly due to COVID situation. Further, due to COVID advisory, we have asked students coming for examination to stay outside the campus. Arrangement of stay was made at Pabal college and not on ashram campus. This was disappointment for many pass out students. It all results in low turnout for board examination.

ii) Energy & Environment: Students carried out electrical maintenance work of Rs.4374/-.

iii) Home & Health section: Students made bread from 20 Kg flour, 2 Kg Tamarind sauce, 2Kg Amla candy & 0.5 Kg dried fenugreek powder.

iii) Agriculture section: Students made 3 ton of agro residue compost & 1 ton vermicompost. Ashok & Prabhakar planted tomatoes on 1 Guntha plot by using plastic-mulching & drip irrigation technique. One she goat kid died due to indigestion and two He-goat kids are born this month.



**Tomato plantation**

**Yusuf Meharali Centre (Panvel) campus** – Nirmal Waghmare, a DBRT student in YMC campus is getting good results from azolla feeding to her cow. Nirmal's family practices dairy farming as their primary income source. She introduced azolla cultivation to her family and started recording its outcomes on milk yield. After weeks of feeding, yield & quality improvements were recorded by her father. They are very happy with the results & proud of their daughters' learnings.



#### **H] IBT schools online training & classes:**

IBT schools started functioning with reduction in COVID cases. IBT schools Head Masters (HM) meeting was held online on 23<sup>rd</sup> February. Meeting was attended by 40 HM & IBT coordinators from 38 Schools. Issues like examination pattern, syllabus, practical material expenses etc were discussed.

Following are some of the highlights of IBT activities -

- Vigyan Ashram experts conducted a two online sessions on importance of hemoglobin (home & health) and importance of soil testing and calculation of fertilizer dosing (agriculture). Total 40 instructors and 421 students (231 boys and 181 girls) attended these sessions.
- IBT students of Dhamari school cultivated cabbage crop on approximate 3 Guntha land. They have started harvesting it and by the end of February sold produce worth Rs. 24000/-.

- Asade IBT school students repaired gas stove under Engineering section and understand importance of timely maintenance of gas stove, opening and again reconnect it.
- IBT students in Malvan School fabricated sanitizer dispenser stand for Ganesh temple in village.

### I] DIY lab @ Pune update-

i) We have started DIY Lab operations. Five students registered as monthly members of the lab.

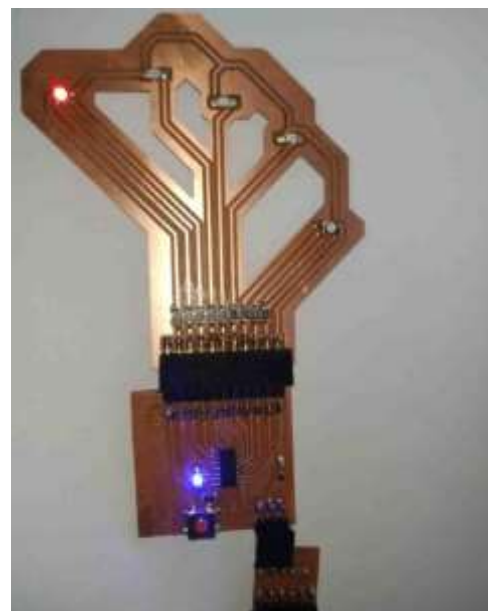
ii) We have conducted two sessions on Make Your Own Toys

- 3/2/2021 – Origami Activity by Vinita mam. (35 students)
- 10/2/2021 – Soft Toys by Harshada Raut. ( 43 students)

iii) Make your own toys session for schools in Chattisgarh : We have started conducting Toy making sessions in Hindi for schools in Chattisgarh. It was done in collaboration with Unicef and Rajiv Gandhi Shiksha Mission. More than 100+ schools and 500 + teachers participated in the sessions conducted on 11<sup>th</sup> Feb , 18<sup>th</sup> Feb and 25<sup>th</sup> Feb.

Wikipedia Work :- Following task carried out in this month.

Scanning work – Mr. Pradip Purandikar – 2 boks, Dr.Bhaskar Giridhari – 5 books



**Fab Academy : Electronic production  
Assignment of Mohit**

### J] Other tit-bit –

- Vigyan Ashram has renewed Food Safety Compliance System (FoSCoS), FSSAI registration for food production and sales. FSSAI registration no. **21521188000416**
- Weather record – Rainfall of the month -00 mm (Total – 681.13 mm) ,Max temp-37.00 °C, Min Temp – 12.00 °C , Humidity – 67 % , Water height in well – 6.15 Mtr.
- Ms Aditi Kharade resigned as Fab lab Engineer. We wish her all the best for her future endeavours.
- Energy consumption record- Electricity unit – III Phase - 840 units , I Phase Export- 719 units, Import- 223 units. DG used – 03.25 Hrs. Quality of power : Number of interruption- 38 , Normal voltage : 77.8 % , No supply : 4.7 % , low voltage :17.5% , No supply: 4.7 % , No data: 0%
- Animal Husbandry section update – Milk production – 358.5 Kg , Goat- 2 new goat kids added , Poultry Egg production – 120.91 dozens (FCR – 1.73)
- Biogas consumption – Dung used- 840 Kg , Gas produced- 24.33 M<sup>3</sup>
- Online visitors: www.dsttara.org –1052 (New visitor – 907 Repeated-145) , www.vigyanashram.com – 1001 (New visitor –805 Repeated- 196)

### K] Data Report:

[https://drive.google.com/file/d/1ujFl6S6GbaSGbfrSKSqNZCSLm5s\\_2bC2/view?usp=sharing](https://drive.google.com/file/d/1ujFl6S6GbaSGbfrSKSqNZCSLm5s_2bC2/view?usp=sharing)

(Work of VA is supported by Asha for Education, Praj foundation, EATON Foundation, L & T infotech, SPA Education Foundation, Megger (I) Pvt Ltd, SELCO India foundation, INDUSA Endowment, Govt of Chhattisgarh, Savitribai Phule Pune University, Suzlon foundation, Dept of Science & Technology, and many individuals and foundations)

## Photo Gallery:



Dome dryer testing



Visit of Mr.Kelkar (Praj foundation) to EDP entrepreneur

Powered by **step** Organized by **Vigyan Ashram**

**Technovation**  
Inspire, Invent, Imagine

An exclusive online science and technology exhibition  
by students from Government aided schools

**Current Leakage Indicator**

**Sprouter Machine**

**Biogas Generation By Waste Food**

**Gunpowder Gun To Protect From Wild Animals**

कोरोनाच्या काळात जग थांबले पण आम्ही नाही थांबलो.  
या कालावधीत आम्ही केलेले भन्नाट प्रकल्प  
ऑनलाईन प्रदर्शनात नक्की पहा आणि लाईक करा.

Like & share your favourite project until  
**1 March 2021, 5 pm**

Registration link: <https://technovation.mylttschool.com/>



DIY : Make your own toys session

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