

Vigyan Ashram Status Report

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Meet DBRT Student on campus



Vikas Kite is from Savindane village in Pune District. His father had studied upto 5th std and running a welding shop in the village. Vikas also wanted to start his fabrication shop and therefore joined DBRT course. Due to COVID, classes were online and he was doing practicals at home. Practical Training at Vigyan Ashram was started after Diwali. But restrictions were again in place during the second wave. To continue his practical training, Vigyan Ashram connected him with fabrication workshop of our alumni Mr.Ganesh Jadhav. He learned fabrication of agricultural tools during last two months apprenticeship. Now Vikas has constructed a workshop shed on highway near his village. He is planning to inaugurate his workshop on 15th July 2021. We wish him all success for his new enterprise.

In this issue



Vigyan Ashram in action # Second Wave Lockdown

- Unfortunately, COVID-19 reached on campus
- Webinar on 'National Technology Day'
- Affordable water filter prototype is tested and ready
- DIY workshop - 'Fun with Family' series

A] COVID-19 reached on Vigyan Ashram campus

Two of our colleagues had shown symptoms at the beginning of May. They took leave and stayed at home. But we have observed symptoms on two more members of ashram. They were immediately quarantined. We have conducted RT-PCT test for all of them. We have also tested all those in their contact. In all nine of us were tested positive. One lady staff was hospitalized, three were quarantine at COVID care center, three were quarantine on Vigyan Ashram campus and two at home. Thankfully after 14 days of quarantine, everybody was fine.

We are observing strict social distancing and COVID advisory on campus since beginning of pandemic. But still we had this unwanted visitor to campus !

Appreciation to all staff and students, who preferred

to stay on campus and continued with daily activities of Vigyan Ashram during the difficult time.



Lilly flowers @ ashram blossomed in May

B] Webinar on National Technology Day

A webinar on 'Technology communication for socio-economic development of grass-root level women' was organised by Vigyan Prasar, Department of Science & Technology (Govt. of India) on 11th May.

Vigyan Ashram's technology development team of Ranajeet, Sanket, Sonal and Ujjwala Gosavi presented Innovative technologies for creating new livelihood opportunities for rural women. Following technologies were presented by the speakers.

Ranajeet : Egg Incubator ; Sonal Shinde : Agro waste composting ; Sanket Valse : Grain disinfection ; Ujjwala Gosavi : Rice de-husking machine.



C] Affordable water filter prototype is tested and ready for pilot testing

Suhas completed fabrication of new version of UV lamp based portable water filter. This version has water submersible UVC lamp attached to ceramic candle filter. A ceramic candle helps to clean physical impurities while UV lamp helps in killing microbial germs. Due to water proof submersible UV lamp, now it's more durable (overcoming electrical short circuits) with lower cost requirement for holding UV tube above water surface. The initial trial has passed H2S- bactoscopic test. We are giving this system to selected users for trail and user feedback.



D] Fun with Family : DIY Lab



Workshop

Pandemic and lockdown has taken a toll on mental health of many people. There is a fatigue of online training. To overcome this DIY lab launched a 'Fun with Family' workshop series from 16th of May. Students and parents are required to perform 'hands-on' activities during the workshop. List of required material is provided in advance. During the workshop, instructors give instructions in steps and students follow them. The workshop is very well accepted with good participation from parents & students. We have appealed on social media for help to conduct the session. We got good response from expert volunteers. We have conducted 3 sessions on chocolate making (Volunteer: Ms Jai Wani), Jewellery making (Volunteer: Mrs Kalpana Dhotre and Warli painting (Volunteer: Mrs Sukhada Pawar) with collective participation of 233 students. We are thankful to volunteers for their contribution.

Apart from this DIY lab also conducted 5 sessions on 123 Design software application (basics & Advance), basics of desktop publication for making of posters, visiting cards etc by using CANVA software.



**FUN
with
FAMILY**

EJ DBRT skill training update:

Pabal campus :

Due to COVID 2nd wave outbreak, 25 DBRT students preferred to go home in May, while 11 students stayed back on campus. All students attended online classes and DIY instructions for practical's. Students on campus continued with their regular hand-on learning. Following are some of the highlight of campus as -



i) Engineering section: In the engineering section students learnt MIG welding, Threading and Tapping, Ferro-cement, basics of RCC application as a part of regular practical classes. They fabricated a shoe rack.

ii) Agriculture & Animal Husbandry section: In agriculture section student fabricated 'mini polyhouse' structure with 3-layer plantation arrangement. It's very useful for terrace or urban farming and students will be testing it as their project. They also learnt skills of seed treatment, land preparation, pest & disease management while planting capsicum crop in polyhouse.



iii) Energy & Environment section: Students learnt basic of electrical wiring while fixing 5 new switch boards in workshop section. They also learnt working of DOL starter and motor re-winding skill while repairing 1 HP water pump of kitchen block. Total value of their work during May was Rs.8835.00. As a part of watershed management skill student learnt marking of contour lines through water-level marker.

iv) Home & Health section: Students learnt basics of sugar syrup preservation, picking & baking skills while preparing various products like cookies, bread, toast (16.4 kg), Chatani (3 Kg), Mango pickle (1.5 Kg), Mango pulp (5 Kg), Tamarind sauce (2.5 Kg). Student earned a community service of Rs.1650.00 while selling above processed products.

v) Computer lab : As a part of computer applications students learnt embroidery skill in sewing lab. They learnt to basics of designing & working with embroidery machine. Students also regularly updating activity blogs to practice web-publications skills.

YMC campus (Panvel) & Narmadalaya (Madhya-Pradesh):

- i) Students of Narmadalaya fabricated storage cage for storing potato and onion (Costing Rs.2900/-). They also made table for office (Costing Rs.2061/-). They also fabricated tree guard for small plants on campus.
- ii) YMC students were at home due to lockdown but attending online classes. During the lockdown DBRT student Mr.Dinesh Waghe fabricated goat shed of size 18*22 ft on his farm. It will house 20 goats.

F] Technology Based EDP:

- We have contacted 150+ of our alumni to understand impact of lockdown on them and their training need assessment. We are designing our future program based on their feedback.
- On 23rd of May, an introductory session on 'Opportunities in food technology-based entrepreneurship' was conducted for 36 participants. Based on resource availability & local market need participants were asked to conduct detailed market survey & enrol for EDP support program.

Hero of the month:

- **Mr. Parmeshwar Mitkari:** Parmeshwar has started his JCB machine spare part and repairing unit in the name of 'Nanabahu Engineering Workshop' at Parbhani. Parmeshwar is a DBRT (batch 2018). He has identified this opportunity after completing 2 years apprenticeship. He is getting hand-holding support in EDP program.
- **Mr. Sachin Gade:** Sachin is a 'food entrepreneur' from Chopada (Jalgaon district). His enterprise 'Sankalp Enterprises' is making banana value added products, pickles etc. As a part of EDP support, we are helping him in quality improvement, market analysis & online sales of his products. With the help of TATA volunteers, we got his online shop @ <https://d-sakalpenterprises.dotpe.in>



Prathamesh with JCB

G] Design Innovation Centre (DIC) & Fab Academy update:

- **'Oxykit' oxygen concentrator** – Vigyan Ashram has joined M19 open source oxygen concentrator manufacturing efforts ([GitHub - MakersAsylumIndia/M19 OxiKit: DiY Oxygen Concentrator based on the OxiKit](https://github.com/MakersAsylumIndia/M19_OxiKit)). We are taking help of Climber engineers in Pune for fabrication. We are aiming to produce 20 lpm oxygen with 93% concentration. During this month, we have sourced all required material and started fabrication. We have also designed code for oxygen analyser &



Oxygen concentrator Assembly in progress

concentrator. We are hoping to start its lab trial in the coming month. We are thankful to Asha for Education for sponsoring this project. We are not sure if we are able to address the need of oxygen during second wave. But it will help us to prepare better for future needs and train our students in oxygen concentrator technology.

- **LPG based sanitary pad incinerator:** Vrushabh & Prasad started work on design of LPG based incinerator for sanitary napkin. It uses LPG water heater mechanism to ignite the flame & gas burner flames are controlled through micro-controller-based switch. During the month of May, they have successfully built lab scale working prototype capable of incinerating 1-2 pads per 3-5 min with complete smoke free combustion. They are working on improving its efficiency through insulated burning chamber & improved gas flow controls.
- Sonal started new trial on azolla cultivation with 'leaf analysis'-based fertilizer dosing. Trial aims in 'doubling' azolla biomass production in 72 hrs timeframe.
- Ranajeet concluded 2 months trial on climbing perch or Koi (*Anabas Testudineus*) fish with yeast (*Saccharomyces cerevisiae*) coated floating feed + Azolla. Trial aimed at achieving Average Growth Rate (AGR) of 0.50 gm/day/fish with FCR of 2 to 3. Experiment succeeded in reaching to 0.20 gm/day of AGR with 3.17 FCR. Koi responded well to yeast as pro-biotic but growth were uneven with little higher FCR than expectation. We are planning new trial with learning from present trial.
- Kalyani re-started marketing of her 'moringa-linseed fortified' healthy ladu's after recovering from COVID infection. She has re-branded her products with 'COVID care' health benefits. She is getting good response from Mumbai, Hyderabad and Pune.
- Mukesh started work on development of 'face recognition' based key lock system. His project aims in using 'open source' face recognition code to operate key locking system. He has successfully adopted code to recognise face & save data base in PC.
- Fab-academy update
Fab students went through interfacing and application programming, Wildcard, Intellectual property assignments. Students also started working on their respective final projects. They have completed conceptual design, programming and PCB making work of their projects. Final project presentations are scheduled on 11th June.
- Pooja completed DIY manual for 'automated school bell' <http://vadic.vigyanashram.blog/category/fab-school-for-fab-village-la-foundation/>.



Rushabh working on Incinerator project

H] IBT schools online training & classes:

Schools in Maharashtra are completely closed due to 2nd wave of COVID & lockdown. Still, some of the schools and students did DIY activities:

- IBT students from Chikhali and Marunji schools tested total 68 potable water samples for bactoscope (H₂S strip) test. Students tested these samples for common drinking water source in village. Out of 68 testing, 14 samples were found not-fit. The results have communicated to the respective families and asked to take proper measures of water disinfection/filtration.
- Residential girl students of Sumati Balbhavan participated wall painting, metal fabrication work as part of hand-on learning activity.
- VA team conducted the Training Need Analysis (TNA) for instructor training program. This will help us in designing training activities for coming educational year.



Water testing : Marunji school

I] DIY lab & ATL (Chhattisgarh) updates-

i) Priyanka Gharad conducted three YouTube live sessions for ATL lab instructors from Chhattisgarh state. These sessions were part of 'Make-Your-Own Toys' series under support of UNICEF & Samgra Shiksha Abhiyaan. Sessions details as follow –

Date of session	Topic	YouTube link
13 th May	Tod Fod Jod of locks	https://youtu.be/yIVfakFG4Q8
20 th May	Science behind kitchen tools / appliances	https://youtu.be/UJjTKgsQAZc
27 th May	Science behind various types of construction	https://youtu.be/G0y0I80fCcw

ii) We have given presentation to SCERT- Chattisgarh for ATL and IBT project planning for coming academic year on 28th May.

J] Other tit-bit –

i) Interview of Yogesh Kulkarni got published in May issue of Weave magazine published by Avantika University.

<https://medium.com/weave-magazine/being-skilled-at-learning-with-yogesh-kulkarni-1ce4459b3258>

ii) **Management committee Meeting** : VA's management committee meeting was held online on 30th May. Chairman of BOT-IIE Dr.Arun Adsool, Mr.Ashok Kalbag, Mr.Vijay Kumar, Mr.Mahendra Rajgude and other members attended the meeting. Various issues like new academic year, proposals & financial status, administrative issues etc were discussed and decisions were taken.

iii) Wiki Project : During the month of May, komal scanned 600+ pages from books of डॉ. द्वारकादास लोहिया (3 books) and बिंदुमाधव खिरे (8 books)

iv) Ganesh Pingle attended 2 days online training program on 'Hi-tech protected cultivation of vegetable crops & value chain management' organized by Krushi Vigyan Kendra (Baramati) on 28th & 29th May.

v) Weather record – Rainfall of the month -10.72 mm (Total –692.85 mm) ,Max temp -39.00° C, Min Temp –20.00° C , Humidity – NA , Water height in well – 6.50 Mtr.

vi) Energy consumption record- Electricity unit – III Phase - 990 units , I Phase Export-1300 units, Import- 161 units. DG used – 00.30 Hrs. Quality of power : Number of interruption- 56 , Normal voltage : 91.09%, No supply :5.91%, low voltage :0.0 % , No data:3.07%

vii) Animal Husbandry section update – Milk production – 210.00 Kg , Poultry Egg production – 234.5 dozens (FCR – 1.90/ dozen)

viii) Biogas consumption – Dung used-684 Kg , Gas produced- 21.35 M³

ix) Online visitors: www.dsttara.org – 918(New visitor –804 Repeated-114) , www.vigyanashram.com – 744 (New visitor- 609 Repeated- 135)

KJ Data Report:

<https://drive.google.com/file/d/1nbnEQ1QRSK1TAEMENj2AxpXC5-GfSplu/view?usp=sharing>

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KJ Photo Gallery:



Experimental setup for polyhouse data collection



Electrical motor fitting practical



Motor rewinding



Azolla bed in dome

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