

Vigyan Ashram Status Report

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A] Entrepreneurship Development Program [EDP]

EDP cell at Vigyan Ashram is supporting our alumni and rural youth in setting up their enterprises. Every month we are organizing introductory webinar on new business opportunities. We are also organizing hands on workshop at Pabal. Following activities were undertaken this month -

- 'Advance Goat Farming' Training:** It was conducted from 10th Sept to 12th Sept 2021 at Vigyan Ashram, Pabal. It was attended by 13 youth including interested DBRT students. Mr.Ranajeet Shanbhag & Mr. Bhanuds Daundkar (Vigyan Ashram) and Mr. Vinayak Narawade, Entrepreneur (Aai Goat Farm, Savindane) were the resource person for the session.
- Webinar on business opportunities in 'Pest Control and Sanitization'** was organized on 29th Sep 2021. Total 185+ people participated in this orientation session. We had invited Mr. Pandurang Khamkar, Entrepreneur (Yash Pest Control, Pune) as a resource person for the program.
- Mrs.Bageshree Adkar, CSR representative, Praj Foundation visited **Ruchi Foods enterprise** established by Mrs.Sarika Jagtap at Shirwal on 24th Sep, 2021. She interacted with Mrs. Sarika and appreciated her business and EDP program support.
- Yogesh Onkar provided registration support to 4 budding entrepreneurs. GST registration (1 enterprise), Udyam Aadhar Certificate registration (2 enterprises), FSSAI Licence (1 enterprise).



Visit to Ruchi Food



Ruchi Swad Mahila Papad Udyog

Hero of the month:

- **Mr. Machindra Dhumal:** Machindra has started his goat farm business in the name of 'Maitri Goat Farm' at Pimpri Dhumal, Shirur, Pune. He has taken 'Advance Goat Farming' training at Vigyan Ashram and now getting hand-holding support through EDP program.
- **Mrs. Sarika Gawari & WSHG team:** Sarika & Team has started papad making business unit in the name of 'Ruchiswad Mahila Papad Udyog' at Vitthalwadi, Shirur, Pune. This group is receiving a business development, production process setting and related support from the EDP program.



Maitri Goat Farm

B] E-vehicle retrofitting and maintenance project :

DIC fellow Vrushabh is working on e-vehicle project. We are using two e-Riksha received from Living lab, IIT,Powai extensively. This month both these riksha travelled distance of 935kms saving diesel of Rs.3869/-. We are regularly maintaining log of all maintenance issue of the vehicle. We have to replace gradient cable of one e-Riksha and repair throttle and drum brake. Arun sir has a e-Bike on campus. We have also received e-Cycle as a donation from Mr.Sonde. Use of e-Riksha, e-bike and e-cycle are giving us sufficient experience to learn operation and maintenance of e-vehicles. We are planning to launch e-vehicle repair and maintenance course in next few months.



Vrushabh is now working on designing e-cycle capable of travelling 100kms(40% human assistance). He is designing battery for the same. In this month, he has designed and made LifePo4 battery pack (24v,24Amp-hr). He made a DIY Spot welding machine to connect battery cells.

More information on his blog : <http://vadic.vigyanashram.blog/author/vrushabh-zunjurkar/>



C] IBT Instructors training program: Training program for agricultural & Animal Husbandry section was organized during 21st to 25th September @ D-I-Y Lab, Pune. It was attended by instructors from LTI supported schools. We are conducting short term training at Pune to avoid mixing of DBRT students with short term students as COVID precaution.

D] DBRT update

Students & staff on campus celebrated 'Ganesh festival' in full of joy & enthusiasm. DBRT student from Odisha prepared eco-friendly Ganesha Idol from soil. Electrical department students prepared decoration with 'laser made *araas*' and decorative lights. Students also organized various competition like relay race, making tik-tok video, scarp utilization etc. Following are some of the highlights of DBRT campus learning activities -



Recreation center construction

- Agriculture section: Students harvested spinach (17kg), Capsicum (6 kg), Alu (34 kg) etc & supplied to Kitchen. In poultry farming students started new batch of 200 birds, but 80 % birds died due to heavy rains & stray cat attack. Students also did land preparation, seed treatment, soil analysis etc while planting chilli, coriander, Ambat Chuka (sorrel) and Jawar fodder crops.
- Dr.Suresh Powar conducted session on 'ground water prospecting using Earth Resistivity Meter' on 21st September for Energy & Environment students. They also conducted survey of agri land on campus.
- Students repaired electrical wiring of boy's dormitory hostel, water pump repair.
- Workshop section: Students fabricated 12 new hostel beds. Total value of this work was Rs.21591/- including Rs.3321/- labour charge. Students also built a brick wall of 1.8 brass (180 ft³) at new 'recreation centre building while learning basic civil construction work. Students also practiced skills in engineering drawing (orthographic projection), metal soldering, spot welding etc.



Biogas installation at Mukhai School

- Home & Health section: Students processed 28 kg bread flour to bake cookies & bread. They also made 7 kg tamarind sauce and 3 kg of peanut chikki while learning sugar syrup-based preservation skills. Students also learned basics of stitching & hand-embroidery skilled in sewing lab.
- As a part of computer application students started practicing basic web publication skills and started preparing their personal blogs. They are encouraged to document their daily learning through blog. Sample blog of student - <http://alumni.vigyanashram.blog/author/onkar-gawade/>
- Energy-Environment students participated in fitting of biogas plant at Mukhai school on 7th Sept.
- DBRT students of workshop department took a 'cycle ride' to Kendure village on 20th September to meet successful alumni Aniket Kanade & Vadant Kulkarni.
- **Narmadalaya visit:** Ranajeet, Dr.Arun Dixit & Ghansham visited Narmadalay NGO (Kargoan district, Madhya-Pradesh) during 28th to 30th September. Visit was aimed to complete practical's of DBRT students & staff. They conducted practical on H₂S water testing, soil organic carbon testing, solar UV water filter, basics of electronics & Arduino programming. Narmadalaya has partnered with Vigyan ashram to implement DBRT & other short term training program for tribal community of 'Nimad' region of Madhya-Pradesh state.



Land measurement for agri plot

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

i) DIC intern Suraj, collected data on 'Black-Soldier-Fly' (BSF) rearing at Bombay Sappers,Pune. He worked with Gen.S.S.Hassabnis for processing of kitchen waste through BSF cultivation. He observed that around 1 gm of eggs can produce larva's to process 4 kg of wet garbage. Suraj processed approx. 500 Kg of wet garbage while producing 60 Kg of live larva's & 200 gm of BSF eggs in 30 days. Detailed operating procedure for BSF cultivation has been documented & published on -



<http://vadic.vigyanashram.blog/author/suraj-k/>

ii) DIC intern Hrushikesh worked on problem faced by SI group industry from Ranjangaon. Due to variable loading Effluent Treatment Plant (ETP) discharge (output) get disturbed during its operations at ETP plant of SI group. It was affecting its processing capacity. Hrushikesh isolated microbial consortium from Effluent Treatment Plant (ETP). Now isolated effective microbial consortium can be loaded in ETP, whenever is required for continuous operations at variable loading.



iii) Sapana made 120 units H₂S bottle kit for bacteriological testing of potable water. H₂S is standard test for testing anaerobic (pathogenic) bacterial load in potable water. We have developed Standard Operating Protocol (SOP) for manufacturing H₂S strips so that they can be manufactured at local level easy & lower cost

water testing. More details available on - <http://vadic.vigyanashram.blog/2021/08/01/testing-of-different-water-samples-with-h2s-test/>

iv) Pooja completed design of automated gate. This gate can be operated by voice command. It uses Google assistant. This gate is installed on campus from last 2 months and successfully tested. Details available on - <http://vadic.vigyanashram.blog/2021/09/17/automatic-gate-design/>

F] Distance Education Video Library:

i) Bhakti and Prasad visited EMRC for video editing and audio recording on 23rd, 24th & 29th Sept.

ii) We are exploring use of Augmented Reality (AR) in education. We have experimented AR for hydroponic system with the help of ARious. Mr.Swapnil Agarkar of ARious visited Vigyan ashram on 21st Sept to understand our requirements and need. Prasad is exploring various option for AR using Solidworks - eDrawings interface.



Recording at EMRC

G] IBT Maharashtra & Uttar-Pradesh updates

School activities:

- Amboli School students, fabricated a simple device for cleaning of ceiling fan. They observed that ceiling fan cleaning is tedious & time-consuming task for school's sweepers. Student fixed roller with UPVC pipe in such way that fan blades can be wipe out from distance.
- IBT students from Nimgaon School have planted 300 plants in a forest campus while earning Rs. 6000/- community service from forest department. Students also implemented crop mulching technique in school campus. These mulching plots are acting as demonstration for nearby farmers.
- Tathawade School have fabricated podium for school from UPVC & plywood boards. Students learnt engineering drawing, wood cutting & basic pipe joining skill through this activity. It costed them Rs.850.00.
- IBT students from Dhamari School, fabricated a coconut de-sheller against order in engineering section. Student sold this device for Rs.250.00.
- Engineering students of Asade School, fabricated 4 units of sanitizer stand and sold them for Rs.2400/-
- As a part of Fab-School project, students of 8th standard from Mukhai school learnt 3D designing & printing skills. They also learn basic electronics skills while making a table lam from scraped cardboard sheets.

IBT Uttar Pradesh:

- Sharad and Ganesh completed survey of all 60 school in 15 district of Uttar Pradesh. They also shared list of tools / equipment to be procure for starting IBT program.



Ceiling Fan Cleaning



Coconut De-Sheller

Team is coordinating with School administration for school coordinator appointment, training & selection of local instructors.

H] DIY lab & ATL lab (Chhattisgarh) training updates:

- A meeting was held with Director of Atal Innovation Mission on 2nd September. Objective of the meeting was to seek their support for mentoring ATL labs in Chattisgarh and Andhra Pradesh.
- A state level webinar on strengthening ATL lab was conducted for Govt officials and teachers from Andhra Pradesh on 7th Sept.
- We shipped 30 DIY kit to different ATL in Chattisgarh.
- During month of September, following online sessions were conducted. Collective participants of 495 students. These sessions were -

Date	Session name	YouTube link
03/09/2021	कार्डबोर्ड की मदद से प्राकृतिक रंग बनाए	https://youtu.be/dRsgrdCftCY
10/09/2021	एटीएल लैब के माध्यम से प्रतियोगिता में भाग लेना	https://youtu.be/XoWUcl50pPc
17/09/2021	Papertronics and Tinkercad	https://youtu.be/STWNbmnCYq4
24/09/2021	Hydroponics plant cultivation	https://youtu.be/6lx8hrxV0b8

- We are encouraging students to learn basic computer programming by documenting their learning on blogs. Here is sample blog of student - <https://atchandrakala.blogspot.com/2021/08/blog-post.html>
- Priyanka conducted webinar for students of Higher Secondary School, Navagarh (Dist. Bemetara, Chhattisgarh) @ 25 Sept 2021 to introduce them about Arduino & TinkerCAD.
- We have conducted a special session on Arudino and sensors in Higher Secondary School, block Kheda, Navagarh Dist. Bemetara on 25 Sept 2021. The session was attended by 14 students and conducted by Tejaswini.
- Pooja is conducting weekly sessions on electronics and papertronics at DIY Lab. Now lab is open on Saturday and Sunday.



Workshop @ Bemetara

I] Crises in IIE Board of Trustees

Vigyan Ashram is autonomous center of IIE. Our administration and functioning are independent. But for statutory purposes and for receiving funds from donors, we are using bank account of IIE. In the beginning of Sept, The Charity commissioner has rejected change report of all trustees appointed after 2018. This results in no authorized signatory available for operating IIE account. This made all bank account of IIE with their Trustees as signatory become nonfunctional. It is affecting us since we are not able to access the funds send by donor agency to IIE account. It was informed to us by life members of IIE that they are working on the issue and efforts are in progress for formation of board of trustees after completing all legal formalities. Meanwhile, we are facing difficulties in making payment. An emergency meeting of Management committee was held on 15th Sept. It was attended by all present members. It is decided to make every effort to keep the pace of the program. We are approaching our donors for their help in overcoming this crisis.

J] Other tit-bit:

- i) Dr.Arun Dixit and Sonal Shinde visited Indian Chemical Technology (ICT), Mumbai on 8th September to discuss 'Azolla feed digestibility' research project.
- ii) Yogesh conducted a session on Fab lab and social outreach for Idea Labs Training program organized by AICTE at COEP on 25th Sept and at D.Y Patil International University on 27th Sept. Yogesh also gave talk on 'Products for rural ecosystem' on 13th Sept in webinar 'Seed the future' organized by Dassault Systems.
- iii) Mr.Varun Chamadiya of Proactivei, Satna (MP) a resource person on Lateral Thinking visited Vigyan Ashram on 22nd Sept. He had conducted workshop with our students.
- iv) Dr.Neeraj Saxena, Advisor of AICTE visited Vigyan ashram on 22nd Sept. We had discussed many ideas of collaboration.
- v) Weather record – Rainfall of the month -161.67 mm (Total: 405.65 mm) ,Max temp-35.00° C, Min Temp – 19.00° C , Humidity – 83% , Water height in well– 6.30 Mtr.
- vi) Energy consumption record- Electricity unit – III Phase -1811 units , I Phase import- 64, Solar generation- 2411. DG used – 01.00 Hrs. Quality of power : Number of interruption- 47, Normal voltage : 84.73%, No supply :11.56%, low voltage :0 % , No supply: 3.70 %
- viii) Animal Husbandry section update – Milk production – 589.5Kg, Poultry – NA, Goat-NA
- ix) Biogas consumption – Dung used-600 Kg, Gas produced-20.41 M³
- x) Online visitors: www.dsttara.org –977 (New visitor-869 Repeated- 108), www.vigyanashram.com – 1522(New visitor-980 Repeated- 542)

K] Data Report:

<https://docs.google.com/spreadsheets/d/1EL8yadpXtb2QXisogv6lByBK9FnEv5ho/edit?usp=sharing&oid=101141840668207826730&rtpof=true&sd=true>

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

Photo Gallery:



Routine maintenance of solar system



Azolla Bed on campus



EDP Trainees – Goat farming



DIY Workshop @ Mukhai school



Survey of schools in UP – Dist. Gorakhpur



Session on Lateral thinking



DBRT students learning Digital embroidery



Dr. Neeraj Saxena at Vigyan ashram



DBRT activity at Narmadalaya



DBRT @ Fab Lab