

Vigyan Ashram Status Report

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A] Innovative Solar Equipment's installed on Campus

We are working with Selco Foundation to promote Solar Energy based Entrepreneurship. To develop and demonstrate working business models around these technologies.

We have installed following solar equipment's on campus.

i) Solar milking machine ii) Solar freezer iii) Solar sewing machine iv) Solar computer & DTP setup v) Solar water pump (1 Hp) vi) 5KW solar electrification unit for mechanical workshop.

We will use these equipment's and collect data to prove financial viability. We will also train students on new solar applications.



Photo Clockwise – Solar DC Fridge , Milking machine, Solar panel, workshop inverter

EDP Training :

First one-month Solar technician EDP training program was started from 2nd January. This will be 1-month training to cover hands-on skill training sections of solar energy application mainly PV panel-based lighting solution, solar cooker, solar water heater, energy auditing, basic of electronics etc. We have 15 students of B.Voc (Renewable Energy) course from C.T.Bora College, (Shirur) undergoing training at Pabal.

As a part of training, Mr.Kiran Inamdar conducted Entrepreneurship Development workshop for students. Students visited Pune market to understand sourcing of products and components. Students also learnt fabrication of solar equipment's and their installation.



Promoting Solar appliances in the market

B] Renovation of DIY Lab: Interior & furniture work of DIY lab was completed during January month. All 3 geodesic dome of DIY lab are modified with appropriate work benches, working tables & flooring work. These domes are painted & new lighting fixtures are installed for better look & training facility. This is the first time, we have done interior and furniture in planned way. We are thankful to SPA foundation for their financial assistance for this work.



New Look of Dome 1 and Dome 2

C] 'Technovation' exhibition:

'Technovation' exhibition was organized @ J P Naik Centre of Education, Pune on 25th January 2020. Its platform for IBT students to showcase their project. 15 IBT schools supported by L&T Infotech Ltd CSR initiative participated with 30 different projects. Only those projects which were implemented in the community, were shortlisted for exhibition. Following projects were awarded on the occasion.

- i) 1st Prize : 'Bricks Making Machine' by Adarsha Vidyalaya, Amboli
- ii) 2nd Prize : 'Smart Stick for Grand Parents' Chikhali
- iii) 3rd Prize : 'Smart Water Overflow Controller', Amboli

Students were given award at the hands of Ms.Deeraj Raina Malhotra (Head of HR- Pune & BFS unit of L&T Infotech), Dr.Prakash Salavi (Directorate General,IIE), Mr.Wasim Shaikh (CSR Manager- L&T Infotech), Mr. Uttam Potwade (HM, Amboli school), Mr. Omkar Banait and Mr. Scot (Evaluator).

Event was attended by 400+ visitors. It was covered by many leading newspaper, social media platforms.



कोथरूडमधील विज्ञान आश्रमात भरलेल्या विज्ञान व तंत्रज्ञानाधारित प्रदर्शनात विविध प्रकल्प मांडण्यात आले होते.

विज्ञान आश्रमात भरले 'टेक्नोव्हेशन' प्रदर्शन

पुणे : कोथरूडमधील विज्ञान आश्रमात नुकतेच 'टेक्नोव्हेशन' या विज्ञान व तंत्रज्ञानाधारित प्रदर्शन भरविण्यात आले. त्यात १५ शाळांनी ३० प्रकल्प मांडले होते. प्रकल्पाला लागणारे साहित्य स्थानिक पातळीवर मिळणारे, टाकाऊतून टिकाऊ व कमी किमतीचे वापरलेले होते.

या प्रदर्शनामधून चार उत्कृष्ट प्रकल्पांची निवड करण्यात आली. त्यातील विजेते असे : प्रथम क्रमांक : विटा बनविणे व वाहून नेणारे यंत्र : आदर्श विद्यालय (आंबोली), द्वितीय क्रमांक : स्मार्ट काठी- वृद्ध व अंध व्यक्तींसाठी (श्री दादा महाराज नाटेकर पंचकोषाधारित विद्यालय-चिखली), तृतीय क्रमांक : पाण्याच्या टाकीसाठीची स्मार्ट पाणीपातळी नियंत्रक यंत्र : (आदर्श विद्यालय-आंबोली) व उत्तेजनार्थ :

मक्याच्या टाकाऊ भागापासून गांडूळखत तयार करणे (हनुमान माध्यमिक विद्यालय- निमगाव भोगी). प्रदर्शनाला 'एल अँड टी इन्फोटेक'चे सीएसआर व्यवस्थापक वासिम शेख, मनुष्यबळ विभागप्रमुख धीरज रैना-मल्होत्रा, भारतीय शिक्षण संस्थेचे महासंचालक डॉ. प्रकाश साळवी, संचालक डॉ. योगेश कुलकर्णी आदी उपस्थित होते. दरम्यान, पाबळच्या विज्ञान आश्रमातर्फे महाराष्ट्र व छत्तीसगडमधील १२८ शाळांमध्ये आठवी ते दहावीच्या विद्यार्थ्यांना 'मूलभूत तंत्रज्ञानाची तोंडओळख' या विषयाचे शिक्षण दिले जाते. यासाठी विविध कंपन्यांची मदत होते. पुण्यामध्ये 'वन स्टेप-एल अँड टी इन्फोटेक'च्या सहकार्याने १५ शाळांमध्ये हा उपक्रम सुरू आहे.

D] Capacity augmentation workshop of Dept of Science & Technology (DST) :

Yogesh, Sachin & Ranajeet attended 'Capacity augmentation workshop of CORE support groups' organized by Science for Equity, Empowerment & Development (SEED) division (DST, Govt of India). Workshop was organized by CTARA department IIT, Powai (Mumbai) during 20th to 22nd January. Workshop was aimed at introducing new technologies & tools particularly useful for research like GIS mapping, Data collection & interpretation tools, technology advancement in renewable energy, Nano technology etc. Yogesh gave a talk 'Digital fabrication' and 'Fab village' concept during the workshop. On 22nd January, VA and Development Alternatives (DA) jointly presented 'Technology Acceleration Platform' proposal to 'Executive Committee of DST'.

E] Short Film on Wiki project @ Vigyan Ashram

Center for Internet and Society – Access to Knowledge (CIS-A2K) has made a short film on Wikipedia work done at Vigyan Ashram. We hope this film will help in motivating others to create knowledge in Marathi language. Film is made by Ms Shilpa Ballal. You can watch the film on youtube link

<https://www.youtube.com/watch?v=ce2EjJHX4g>



F] Celebration of 'Republic Day' : 71st Republic Day

was celebrated on VA Pabal campus with full of joy & enthusiasm. On 25th January as a part of 'Shramdaan' activity, students & staff worked together to clean campus, added compost & soil mixture to newly planted tree saplings and made necessary arrangement for watering. On 26th Jan, celebration started with flag hosting followed by 'cultural program'. Campus was busy day and night through out the month in preparation for cultural program.

G] DBRT Updates:

A new year started with lots of new learning & enjoyments in day-to-day skill trainings activity for DBRT students. Following are some of the highlighted activities during January –

- We had a visitor from Vietnam Mr. Tien Tran for one week. He is a farmer entrepreneur in Vietnam. He helped us in rearranging of 'scrap yard' based on 'Marie Kondo' a Japanese concept of material handling.
- Students in workshop department learnt making of ferro-cement sheets, fixing sunmica to plywood and basic of plumbing during January. Students earned community service of Rs.48646.00 (Rs.5505.00 labor charges) in January.
- Agriculture department students took a bicycle trek to 'Agriculture exhibition' @ KVK Narayangaon. They also visited progressive farmer on the way, a vegetable nursery seedling tray making industry as a part of their study tour. They traveled nearly 120 Km during 2 days cycle tour.
- Agri students also learnt various agricultural cultivation practices while planting maize on 1.5 Acre (65 Kg seeds) & Bajara crop on 1 Acre area (10 Kg seeds).



26th Jan : Cultural Program

- Energy & Environment students did electrical wiring fitting work for Shri.Bhairavnath Mandir at Pabal village. They also learnt 'motor re-winding skills' while repairing 1 HP water pump.
- Students of H & H section formulated 'health bar' recipe from peanut and other dry fruit ingredients as a part of new product development activity under student project. Students also learnt making of Jam, Jelly & candy from Papaya. They earned a community service worth Rs. 3575.00 while selling various food products.

H] Exhibition and Technology Dissemination

i. We have participated in "Science & Technology Festival" on 7th to 8th Jan 2020 at the Dayanand College Latur. It was organized by MIT-WPU. We have exhibited various project like composter, DC bamboo engraver, aeroponics farming model, autofarm etc. Team of 4 DBRT and 4 DIC Students represented VA.



From Clockwise : Ganesh kala krida (Pune), Latur, Maker Mela (Mumbai), Pune University, Latur

- ii. Tejaswini & Karishma presented her project 'DC powered floor mill' at Maker Mela-2020 @ Somaiya college from 9th to 11th Jan.
- iii. Vishal & DBRT student Krishna participated in SEVA SANGH exhibition at Ganesh Kala Krida Manch Pune on 18th - 19th January. We had exhibited information about various courses offered by VA.
- iv. DIC project Exhibition: DIC students demonstrated their technologies and projects at Savitribai Phule Pune University on 10th Jan. It was as a part of 3rd party assessment of DIC scheme & review meeting. Hon Vice Chancellor Dr.Kalmalkar visited our stall.

I] IBT Update : Following are highlight of activities of IBT program during January.

- IBT Students of Sant Dyaneshwar Vidyalaya, Chas (Pune) conducted water potability (H₂S) test for 10 samples on 13th Jan 2020. These samples were collected from community handpumps & wells in village. Out of 10 samples, 5 samples were found positive for bacterial contamination & not-fit for drinking.
- IBT students of Mukhai (Pune) conducted soil analysis for 5 farmers in the village and gave the report.
- IBT students of Adarsh Prashala, Nagaj (Sangli) fabricated a fodder hydroponics system of 48 tray capacity for poultry farmer. They met this farmer during their study tour (picnic) and convinced him to have this system for better productivity. System costs Rs.35000 with automated watering arrangement.
- IBT Students of Vadachapat (Sindhudurg)



Apeculture @ Vadacha Pat

- fabricated and installed streetlight automation (LDR) units to 55 street lights in their village.
- Vadacha Pat schools started 'apeculture' in their school as part of IBT program. Dr.Yogesh Kulkarni visited the school on 13th Jan and inaugurated new facility with 4 honey bee boxes as training cum production facility.
 - Video conferencing session : Two video conferencing session as 'Method to find milk adulteration using Lactometer test' (4th Jan) and 'Plain table and dumpy level survey' (18th Jan) they were attended by 812 students from 14 schools.
 - Yogesh visited IBT program at Madachi wadi on 14th Jan.
 - IBT Chhattisgarh updates:
 - Students of 6 porta cabin school in Bijapur district tested blood group of 722 students in 6 schools. They also identified 45 students with lower hemoglobin levels.
 - IBT students of Jangla porta cabin harvested 50 Kg of brinjal from their agriculture plots. Students planted brinjal using 'mulching paper' technique and getting very good yield.



Agriculture Plot : Sangampalli (Chattisgarh)

J] Technology development & DIC Update :

- i. Fab Academy Instructors Boot Camp : Suhas participated in the instructors boot camp at Kochi Fab Lab from 20th – 25th January. Dr.Neil Gershenfeld guided students on new design tools, microcontrollers, new CNC machines etc. The camp was also attended by our Alumni Ms Arundhati and Ms Apeksha. They will be instructor for Fab Academy 2020.
- ii. Sonal started 'Agro-waste composting' field trials with microbial consortium developed using azolla. She will be conducting field trails at 50 different location to test its applicability. During January trials are started on 5 ton Agro-waste at wafgaon village (Tal- Khed).

- iii. As a part of Bajaj-Auto CSR supported 'modernization of agriculture section' project work of fodder storage, vermicomposting and free-stall dairy unit work got completed. We have purchased a new cow (HF cross breed) in dairy farm on 31st Jan. Her name is Gauri.
- iv. Two Days poultry farming training workshop was conducted on 16th & 17th January. Training was attended by DBRT students and 4 farmers from Pabal village.
- v. Mr.Kiran Inamdar completed Third Party Mid-Term evaluation of DBRT, DIC and DIY project. He has submitted his report of third-party evaluation.
- vi. Fab Academy 2020 batch started on 29th Jan. We have 5 students including two teachers from Engineering college, Shegaon undergoing the course at Pabal.



New member to VA family : Gauri Cow

K] DIY Lab, Wiki & Digital Textile lab :

- Wiki Marathi centre at Pabal conducted a 'photothon' on 11th January. Students took photographs of tissue culture lab at Pabal campus and published them on commons open source platform. Wiki-girls also scanned 3504 pages & made OCR of 331 pages for wiki-publication.
- PMC schools students – Students who had done projects at DIY Lab won three prizes in Science project competition organised by Rafi Ahmad Kidwai School.
 - i) Shriman Savitribai Phule High school, Smart Samai – **1st Prize,**
 - ii) Rafi Ahmed Kidwai school, Smart Dustbin – **2nd Prize,**
 - iii) PMC Katraj High School, Water Overflow Controller - Consolation prize
- Rutvij conducted Workshop on Bio Medical sensors for DIY Lab students during 20th – 31st Jan . Students made project using Muscle sensor (Exoskeleton), Galvanic Skin Response Sensor (Emotion Detecting Gloves), Heart rate monitor(Digital heart).



DIY Lab - Measuring heart beats

L] Other tit-bit –

- i) Yogesh visited 'Bhagirath Pratishthan, Kudal' on 13th Jan and interacted with their volunteers on various training program and work of Vigyan Ashram.
- ii) Ranajeet attended Workshop of 'State level soil health card mission registered laboratories' @ Aurangabad on 29th January. Workshop was organized by state agriculture department to discuss 'soil health card' mission status, difficulties & further scope of work.

iii) Ms.Jyoti Gawade from ASHA for Education (Seattle chapter) visited Pabal campus @ 28th January. We are thankful to Jyoti & ASHA for education team for their continuous financial support & encouragement for over past 15 years.

iv) VA Management Committee meeting was held @ 11th January 2020. Meeting was attended by Mr.Vijay Kumar,Dr.N.S.Nikam, Ms.Anjali Chipalkatti and Dr.Yogesh Kulkarni. Various new proposals, technology development, infrastructure and educational project were discussed during meeting & decisions were taken.



Visit of Ms Jyoti Gawade (Asha for Education)

- v) Donation : Soham GaneshKusum Samuh – A group of devotee collectively donated Rs.1,00,901/- on 28th Jan. We are thankful to them for their support.
- vi) Weather record – Rainfall of the month -00 mm (Total – 945.28 mm) ,Max temp-38.00 °C, Min Temp – 12.00 °C, Humidity – 89 % , Water height in well – 7.22 Mtr.
- vii) Energy consumption record- Electricity unit – III Phase -1220 units , I Phase Export- 167 units, Import-779 units, DG used – 4.48 Hrs. Quality of power : Number of interruptions :43, Normal voltage : 77.87% No supply : 10.20 % , low voltage : 11.94%, No data: 0 %.
- viii) Biogas consumption – Dung used- 24 Kg, Gas produced- 0.1 M³) Two wheeler – Not available, petrol consumption – NA
- ix) www.dstattara.org – 1162 (New visitor –1009 Repeated- 153) , www.vigyanashram.com – 1268 (New visitor – 1020 Repeated-268)

Data Report:

<https://drive.google.com/open?id=1kIK3GIGyMHQ9xdVvYQRkHDBQgwoeMO-W4>

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

Photo Gallery:



3D printed jobs by IBT students of Mukhai School



G9 Banana : Tissue culture plants



Composting bed at Wafgaon farmer : To increase soil carbon



Fab Academy Class by Dr. Neil Gershenfeld : Every Wednesday evening 6.30pm



Suhas and Arundhati with Dr. Neil Gershenfeld @ Fab instructors Boot camp at Kochi



DBRT students : MIG welding