

Vigyan Ashram Status Report

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In this issue

- 'कहाणी पाबळच्या विज्ञान-आश्रमाची' Book release ceremony
- 2nd Digital fabrication 'Make-a-thon' for girl students
- Health check-up of Vigyan Ashram students and staff members
- Dept of Science and Technology (DST) sanctioned two projects to Vigyan Ashram

A] 'Kahani Pabal chya Vidnyan Ashramachi' Book release function:

Dr.Yogesh Kulkarni wrote a book on 'Vigyan Ashram'. It is written in Marathi with title 'कहाणी पाबळच्या विज्ञान आश्रमाची'. The book is published by 'Samakalin Prakashan'. The book was released at the hands of Padamshri Dr.Arvind Gupta on 8th Oct. A panel discussion was held about journey of Vigyan ashram. Our alumni Mr.Anil Gadhe, Ms.Kalyani Chavali ; Management committee member Mr.Vijay Kumar,



Author Mrs.Shobhana Bhide & Mrs.Vandana Atre, Ms Gauri Kanetkar (Samakalin Publication) participated in the discussion. Many noted personalities from social and educational sector were present on the occasion. We are very thankful to all our supporters for their support in these 40 years of fascinating journey of Vigyan Ashram. The new book is available on Amazon - <https://www.amazon.in/dp/9392624212...>

B] 'Make-a-thon' for Science Girl students:

A 2nd batch of Make-a-thon for rural science college girls was held from 10th to 14th October. It was based on use of digital-fabrication in 'life-science' (bioinformatics). It was attended by 22 girls' students from Agriculture Business Management (ABM) College, Narayangaon. Students learnt skills in soil & water analysis, microbial-isolation, soap making, food analysis etc along with 3D printing, basics of sensor application & programming. Students worked in small teams to fabricate a 'prototype' based on



real-life problem statement. We are very thankful to La-Foundation (Dassault Systems) for their financial support and Ms Swastishree and Ms Sneha Deshpande for interacting with participants.

C] Health check-up of Vigyan Ashram students

We have organised health check-up camp with the help of Dr. Sheetal Bagul of Lions club, Kothurd on 27th & 28th October. We have also tested Body Mass Index (BMI) & haemoglobin for all students. Out of 67 people tested, 14 found to be with lower haemoglobin level with anaemia symptoms. Students with other health issues were given prescription. To take care of anaemia among students, we have decided to start 'millet-peanut laddoo' as a health food supplement every day after Morning Prayer. We have also started giving one fruit in the afternoon. We will again monitor health data after 3-month.



D] DBRT activities:

Following are some of the highlights of learning activities of DBRT students during October month:

Energy & Environment section: Students installed 2 ceiling fans & 2 exhaust fans at new hostel and food-processing units respectively. Students installed tube-lights, fans & TV set at 'Asmita-Bhavan' in Pabal village gram-panchayat. Students also done installation of inverter at classroom & done repair maintenance of CCTV cameras on Pabal campus. Total value of students' community work for this month was Rs. 33886.00



Inverter battery maintenance

Engineering section: Students completed fabrication of 20 units of hostel bed. They have also completed fabrication & installation of window louvers for classroom, welding curtain frames & 2 units soldering table for electrical section. Total value of community service work done by students was Rs.2,27,704.00 including students earning of Rs.28,027.00. Team of girl students (Ashmita, Poonam, Archana and Laxmi) completed wall-painting work for one block of ladies' hostel. They earned Rs.5607.00 for total material investment of Rs. 6442.00.



Drying of tomato

Home & Health section: Students processed 10 kg tomatoes to make sauce & dried tomato powder. They have vacuum sealed 121 kg grape-resins, baked breads for breakfast using 56 kg bread-flour. Total value of community service in this section was Rs.10550.00

Agriculture & Animal husbandry section: Students learnt skill of land preparation, seed treatment and soil analysis skills while planting onion seedlings in 300 m² area. Students also planted 500 gm of fodder jawar and 500 gm fodder cowpea on approximate 100 m² area. Students learnt installation water-fogger system in polyhouse for temperature & humidity control. In animal husbandry section new poultry farming batch started with 100 Kaveri breed birds.

Agri dept harvested 5kg capsicum and 21 kg pumpkin. Students regularly recording their learning on personal blogs. Details of individual students' learnings can be found on

<https://alumni.vigyanashram.blog/category/batches/2023-24/>

E] Design Innovation Centre (DIC) updates:

i) **Black-Soldier-Fly (BSF) based composting:** A new BSF based composting system is installed at Janaki Rainbow Housing Society, Baner Rd (Pune). Three hanging baskets with daily loading capacity of 35-40 kg waste are installed in the society complex. Approximate 2070 kg of waste is processed at Rajgurunagar dumping ground with the help of BSF. Due to bird (crow, pigeon) attack bed got disturbed affecting overall

processing & breeding cycle of BSF.

Mahesh, Arun & Ranajeet presented business-pitch of BSF enterprise at MIT WPU Technology Business Incubation center on 1st October. TBI has shortlisted pitch for next level presentation & incubation support.

ii) **E-Rickshaw mounted sugarcane Juicer :** Team of Rahul, Ghansham and Sahil completed fabrication work of juicer mounting, raw cane storage and lead acid and lithium battery mounting work for E-Rickshaw based sugarcane juicer project. The work is under contract of Mr.Nitin Krishnan (Ajanpur Biodynamix Pvt Ltd).

DIC student Sahil calculated rate of heat-transfer (U-value W/m²K) for aluminum tube used for juice chiller unit. They found the flow rate of 900ml/minute of juice can be maintained in chiller with 10 to 15 °C final temperature of juice for given length of tube.

iii) **Reducing cost of COD analysis:** For waste water analysis Chemical Oxygen Demand (COD) is most common test. We are performing this test every month at Pabal campus to check efficiency of grey-water recycling systems. A lab grade Silver Sulphate (Ag₂SO₄) required for performing this test costing around Rs.75 per test. Apart from cost; leaching of Ag₂SO₄ in open environment (drainage) after test is also a concern. Akshada worked on recovering Ag₂SO₄ after the test.



Poultry vaccination



Black Solider Fly in the basket



E-Rikshaw fabrication

She successfully recovered 65 % Ag_2SO_4 by using Hydrogen Peroxide (H_2O_2) reaction. This has reduced our cost of COD testing 5 times with lower pollutant leaching. Akshada will make DIY manual & SOP for other labs & publish it as an open-source document.

iii) Retort pouch packaging: Pranay conducted trials on using retort-pouch based packaging for ready-mix gravy & jeera rice. Retort packaging uses superheated water or steam to disinfect food with specialized packing-pouches. Pranay successfully used lab autoclave & aluminum foil pouches to preserve ready-made gravy & jeera rice. Retorted gravy & jeera-rice pouches was suitable for consumption even after 1 month of packaging. He is working on developing SOP for cottage scale processing units.

iv) On 8th October, 19 students from Agricultural Polytechnic & Dairy Diploma College attended 1 day training on application 'life-science' in daily-life. They had explored skills in soap making, soil analysis, microbial consortium etc training workshop.

v) Rahul Bhanje completed his 6 months fellowship in DIC. He worked on modification of solar dryer, sanitary pad incinerator and E-Rickshaw sugarcane juicer project. Similarly Ms.Tanvi Borse completed her 1 month internship in fab-lab. She worked on developing Printed Circuit Board (PCB) for temperature-humidity data logger.

vi) Abhijit Pisal (MTech Agril), Sahil Chavan (BT ech Agril), Abhishek Pisal (Btech Agril), Pruthviraj Rapaka and Ritesh Solankhi Joined DIC internship. They will be working on red-chilli dryer, BSF breeding chamber, BSF larvae harvester, E-Rickshaw Juicer project respectively.



F] Do-It-Yourself (DIY):

- Educationalist Dr.Arvind Gupta visited DIY lab Pune on 8th October and interacted with DIY students.
- DIY students learnt various skills& science concepts through activities like making of balloon car (6th & 7th Oct), Hologram Projector (11th & 12th Oct), Geoboard making (13th,14th & 18th Oct), Geo rangoli (20th & 21st Oct), Water conductive painting & Diwali lantern making (25th & 28th Oct)



G] Atal-Tinkering-Lab (ATL) & DIY lab update: ATL Andra-Pradesh:

- DIY-Makers lab kits were purchased & installed in 2 schools as KGBV Laveru and KGBV Ranastalam in Srikakulam district of Andra-Pradesh. It's a low-cost version of ATL tool set. Kit will provide tinkering facility to non-ATL school students. Low-cost maker kit will be installed in 20 schools of Telangana



and Karnataka.

- Team conducted 2 online sessions for ATL lab instructor & students in state. The sessions were based on Ticklish Robot (<https://www.youtube.com/live/LJkiDqzJ9aM?si=vLaFtygJkkgwgY3t>) and Making paper folding models using Pepakura (https://www.youtube.com/live/QD1xyDa8AME?si=sgneGfAtqoteVA_R)

ATL Telangana:

- Purshotam visited 3 schools to resolve technical issues with 3D printer. He repaired these printers and conducted session for ATL students.
- Four new videos on DIY activities is made for students.

ATL Karnataka:

Dipali & Rajeshri helped schools in submitting student's project entries for 'Seed the Future Entrepreneur' competition.



Preparation for Seed the Future : Karnataka

H] Marathi Wikipedia & Distance Learning Library (DLL) update:

Wikipedia update:

- Komal Shambhudas & Pooja Jadhav attended international Wiki-Women-Camp 2023 during 19th to 22nd October held at New Delhi. This year camp was based on 'Map Up – Rise Up' theme & aimed at recognizing women leadership in Wikipedia movement. A 3 days camp was attended by Wiki-women leaders from 30 different countries to share their experiences, learn new editing, publication tools etc. A short video clip on journey of wiki-editor at Pabal Mrs. Priyanka Chaudhari was showcased at camp. Clip can be viewed at https://fb.watch/o9_3Dwql7N/?mibextid=2Ck5i9
- Priyanka & Komal conducted awareness workshop in 'opportunities in Wikipedia' at HRASC college, Rajgurunagar and Padmamani Jain college, Pabal. Workshop was attended by 30 students to learn different aspect of open-source publication, learning opportunities and skill set required.
- Priyanka & Komal completed proof-reading of 6 books comprising 472 pages and OCR making for 14 books comprising 633 pages.



Pooja and Komal @ Wiki women camp

Distance Learning Library updates:

- Video modules for wall-painting and water-pump installation is completed. Videos uploaded on <https://www.theskillsguru.in/> with necessary interactivity.



Wiki Scanning demo to Dr Arvind Gupta

I] IBT Maharashtra & Uttar-Pradesh updates:

IBT Maharashtra updates: IBT students completed first semester of their respective classes. Schools which are participating in the 'Seed the future' challenge had conducted survey to identify problem statements. Following are some of the highlighted students' activities as-

- The agriculture section of Chas IBT-school fabricated 'hydroponics fodder' unit for dairy farmer in village. Students used ½ inch UPVC pipes for making structure (3.5* 4.5ft), 12 V DC motor, foggers, plastic trays and automated timer switch for fabrication of unit. Unit can produce 25 to 27 kg green fodder for every 9 days. Total material cost of structure was Rs.2000.00
- Students of engineering section at Sangise School carried out wall painting of 2 classrooms. They learnt surface area calculation, types of paints, wall preparation etc while doing painting. Students painted 2000 Sq ft wall with total investment of Rs.19872.00 as material & labor charges.
- Inauguration of IBT program at Khadaki school : School at Khadaki-Pimpalgaon (Tal-Ambegaon, Pune) joined IBT network. The inaugural function was held on 13th October in presence of Mr. Sujit Dixit & Mrs. Krishanan Uma (TATA Technologies-CSR), Mr Vivek Valse Patil and Dr.Yogesh Kulkarni. The program is supported by Tata technologies and implemented by Stars forum.



IBT inauguration @ Khadki Pimpalgaon

Learning by doing (LBD) @ Uttar-Pradesh updates:

- VA team conducted 7 online expert-sessions for 6th – 8th class schools. The sessions were based on design-thinking, making of ferro-cement articles, earthing-pit, making of solar dryer and making of LED emergency torch.
- Australian international cricket team captain, Patrick James Cummins visited Learning-By-Doing (LBD) program at Composite School Aurangabad School (Lucknow) on 10th October. Pat Cummins is global brand-ambassador of UNICEF & was in Lucknow for cricket world cup tournament.



Pat Cummins with LBD students @ Lucknow

J] Entrepreneurship Development Program (EDP) update (VATF):

i) Poultry farming enterprise: A 2 days poultry farming training was held on 10th -11th October at Pabal. Training was attended by 12 farmers from Velha, Ambegaon, Junnar region of Pune district. Training was focused on advanced technical skills like feed-formulation, vaccination, egg incubation etc. Poultry farmer Mr.Vineet Deshmukh, Veterinary service provider Mr.Sandeep Dhamale guided farmers. Trainees also visited



Solar PV Training

successful poultry farmers at Pabal & Shirur for on field guidance.

ii) Solar PV installation & maintenance: A training workshop on Solar Photovoltaic panel installation & maintenance was conducted at Udyamita Learning Centre, Sagaroli (Dist-Nanded) on 20th & 21st October. Training was organized jointly by Vigyan Ashram & Sanskruti Samvardhan Mandal. Training was attended by 10 budding entrepreneurs. Mr.Suyog Wargade, Mr.Rahav Rajpur, Mr.Yogesh Onkar were resource person from Vigyan Ashram.

iii) MCKL farmer's EDP workshop:

An EDP workshop for farmers in Sanjivak-Swavlambi-Sheti fellowship program of Maharashtra Knowledge Foundation Limited (MKCL) was conducted on 9th & 10th October. Training was attended by 17 young farmers from Solapur district. Aim of the program was to introduce various technology-based enterprise opportunities in the farm as well non-farm sector. EDP section will provide necessary skill training & on-field incubation support to these farmers.

iv) NAVYA SEASON-2 Exhibition: As a part of marketing linkage support EDP team had participated in Navya Season-2 exhibition organized at Prabhat Road Pune on 28th & 29th October. EDP beneficiaries Ashirwad foods, Paoolwat Foundation and Deshi Ghana displayed & sold their products in the exhibition.



EDP for farmers

v) Field visits:

- On 3rd October Ganesh visited Bharat Langote (A/p-Vaphgaon) and Mrs.Sujata Pingle (A/p-Gulani) for on-field mentoring support.
- On 2nd & 27th October Yogesh visited Dr.Jayashree Nalkar (Millet processing unit at Manjari Pune) and Mrs. Varsha Sonawane (Food processing, Ravet) respectively for on-field mentoring.
- On 26th October, Ganesh & Vishal visited Snehalaya and Savali NGO at Ahmadnagar to meeting DBRT & EDP alumni students.

Hero of the month:

i) Mr. Vaibhav Rahane started sliding window and fabrication enterprise At-Kanhersar (Tal-Rajgurunagar, Dist.-Pune). Vaibhav is DBRT (Batch 2017-18) batch student and working in Pabal area from past 5 Years. He is getting incubation support in EDP program. He has invested Rs.20000.00.

ii) Mr.Manohar Pingale started Malhar-goat farm At-Wadgaon (Tal-Daund, Dist-Pune). Manohar is our goat-farming short term training student & also getting on-field mentoring support under EDP. He has invested Rs.700000.00.



Inauguration of Vaibhav Fabricator

K] Modernization of engineering & electrical section :

We are doing Modernization of Engineering workshop & Electrical section with the support of MAHALE Engineering CSR. Work of construction of new painting-booth, fabrication & installation of welding curtains and purchase of new storage cupboards were done. Ranajeet, Mahedra and Akshay attended review meeting on 2nd October at MAHALE Engineering CSR office.



New Welding booth

L] Other tit-bits:

- i. Dept of Science and Technology (DST, Govt of India) has sanctioned “Livelihood generation for rural youth through innovation, training and entrepreneurship promotion” under its SUNIL scheme. Mr Ranajeet Shanbag is Principal investigator (PI) of the program and Dr Pooja Doshi of Savitribai Phule Pune University (SPPU) is Co-PI of the project.
- ii. Dept of Science and Technology (DST, Govt of India) has sanctioned “Technology Acceleration Platform for Rural Innovation and Social Entrepreneurship (TAP-RISE)” project under its SUNIL scheme. Mr. Shrashtant Patara, Society For Development Alternatives, Delhi is Principal investigator (PI) & Dr. Yogesh Kulkarni of Vigyan Ashram is Co-PI of the project.
- iii. Dr Yogesh Kulkarni is appointed as a member of ‘Curriculum Area Group’ on vocational education formed by NCERT. Mandate of the group is to design syllabus, guidelines and books for class VI-XII on vocational education as per New Education Policy 2020 and National Curriculum Framework 2023.
- iv. Vishal visits to various grassroot organization and DBRT alumni students in Nandurbar district during 1st to 5th October. He conducted awareness camp on skill training & entrepreneurship opportunities at for 26 youth at Dhadgaon.
- v. Team of 15 youth from YUVA-Netrutwa Kendra of Jnan-prabhodhani (Pune) visited Pabal campus 21st October to interacted with students & learn various developmental activities. 0
- vi. Sumit Thakare (ATL project coordinator) attended 3 days training program on Planning & Management of Rural Development organized by National Institute of Rural Development & Panchayat Raj (NIRDPR) Hyderabad during 18th to 20th October.
- vii. Festival of *Dasera* & *Kojagiri* Pornima were celebrated on Pabal campus with full of joy & enjoyment. On 28th October students prepared flavoured-condensed milk on *Kojagiri* and enjoyed bone-fire dancing.
- viii. Weather record – Rainfall of the month –30.56 mm (Total: 411.42 mm), Max temp-33.00°C, Min Temp –15.00°C, Humidity –55%, Water height in well– 4.40 M.
- ix. Energy consumption record- Electricity unit – III Phase-1138 units, I Phase import-134 units, Solar generation-1020 units. DG used – 6:30 Hrs.
- x. Animal Husbandry section update – Milk production –677 Kg (Gross / loss: Rs: -1094.00) Poultry- New batch with 100 birds (Kaveri breed) started from 10th October.
- xi. Biogas produced- 41.76 M³ (Dung used-835 kg)



Awareness camp @ Dhadgon



Dassera Pooja

- xii. Online visitors: www.dstattara.org – 835 (Organic search-483, Direct search-352),
www.vigyanashram.com – 1032 (Organic search-513, Direct search-519). Campus tour visitors –312.

KJ Data Report: <https://shorturl.at/aMNQ5>

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Photo Gallery:



Onion plantation .. DBRT project



Mr.Prafull Shroff of Shroff foundation visited on 16th Oct



EDP @ Sagroli, Nanded



Kojagiri @ Vigyan Ashram



Learning Pottery @ Bulandshar on 26th Oct



Vahangaon IBT – Making Dandia sticks

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