

Vigyan Ashram Status Report

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A] Diploma in Basic Rural Technology (DBRT) graduation:

Graduation ceremony of Diploma in Basic Rural Technology (DBRT) 2024-25 batch was held on 23rd June. It is a 1 year residential program with focus on multi-skills training & entrepreneurship. During academic year 2024-25, out of 61 students, 45 completed 1 year program while 16 opted for short-term training certificates. Following students received award on this occasion - Highest community service earning – Mr. Saurabh Kokare Rs.46,863/- (total community service earning of this batch was Rs.3,51,000/-). Best academic performance – Mr. Ravindranath Chaswik, Student of the year (boys) - Mr. Ayush Bharane, Student of the year (girls) - Ms. Alanka Pawar.

Students learning journey is capturing in short video – <https://www.youtube.com/watch?v=q7UuCGHu8xE>
Individual students learning activities and profile can be found on - <https://alumni.vigyanashram.blog/dbrt-batch-2024-25/> . We wish all students best luck for future entrepreneurship journey.



We are very thankful to Asha for Education, Eaton India Foundation, MAHLE Engineering Services Pvt. Ltd, SPA foundation, Praj Foundation, La-Foundation (Dassault System), Foundation of Communities of Learning (Durga Devi Trust) and many individual donors for supporting the DBRT program.

B] Achievements in 3D Seed the Future Entrepreneur (STFE) finale:

'Made in 3D – Seed the Future Entrepreneur 2025' competition is organised by Dassault Systems and Atal Innovation Mission. It is a national level competition, expecting students to use electronics, 3D design and printing etc. and create a solution to the local problem. They need to present it as a startup with their business plan. The 2025 edition witnessed participation from an impressive 260 schools spanning 29 states and union territories across India. Three IBT schools mentored by Vigyan Ashram proudly secured spots among the top 10 finalists and got following awards:

- 2nd Runner-Up: New English Medium School, Dhamari (Pune) for their innovative "Onion Stem & Root Cutter".

- Best all-Girls Team: HVPU Ashram-Shala, Waghera (Nasik) for the creative “Expandable Painting Roller”.
- Product most relevant to theme: PJNV School, Nirdgudar (Pune) for the practical “Wash Easy” vegetable washer.
- ZPHS Dharamavaram, Vizianagaram District in AP also received special mention as the 'Best School from aspirational district' and securing place in the semi-final.



C] School teachers & vocational educators training programs:

In the month of June, we conducted 4 training programs for school teachers and vocational educators (instructors). Training was focused on ‘implementation of vocational education activities in school’ as per new books on Vocational education ‘Koushal Bodh’ published by NCERT. The details are:

- Training @ Hunnar Gurukul: A training program on implementation of ‘Kaushal Bodh’ for class 6th to 8th std. was conducted at Hunnar Gurukul, Saswad, Pune during 4th to 6th June. Training was attended by 30 instructors & teachers from ‘Cause of Connect’ and selected schools from Parbhani district of Maharashtra. Participants learnt implementation of vocational education in schools in life-form, Machine & Mechanics and Human-services.



- A training of implementing vocational education at schools was conducted at Deccan Education Society (DES) English medium school (Pune) from 10th to 12th June. Training was attended by 61 high-school teachers to learn project-based vocational education implementation.
- An IBT instructor training program was conducted at Pabal campus during 17th to 20th June. Training was attended by 37 IBT instructors from Pune & Nasik districts. Instructors learnt new skills in farming, home & health, energy & environment and workshop sections along with project-based learning methodology and

documentation required at school level. The IBT program in these schools is supported through the CSR initiatives of TATA Technologies and MAHLE Engineering Services India.

- During 25th to 28th June, IBT instructors training program was conducted at Pabal campus. Training was attended by 34 instructors from Talegaon region of Pune district under Schaeffler India's CSR support. The instructors learnt new skills and technologies useful for vocational education from class 6th to 10th std. students. (STARS Forum)

D] Faculty Development Program (FDP):

The Faculty Development Program (FDP) for senior college professors was conducted during 16th to 20th June at K.T.H.M college of Arts, Commerce & Science, Nasik. Training was based on Vigyan Ashram's experience on implementation of 'Design Thinking, Innovation & Entrepreneurship Development' for graduate & post-graduate students. A total of 34 college faculties participated in hands-on training sessions on 'design-thinking' methodology. Our alumni Mr. Tushar Kukreja shared his entrepreneurship journey in the context with the necessity of design-thinking approach. Training was organized with the support of Maharashtra State Faculty Development Academy (MSFDA). (VATF)



E] Vocational education textbook development workshop:

A working group meeting & vocational education textbook (9th Grade) development workshop was jointly hosted by Vigyan Ashram & Lend-A-Hand-India (LAHI) during 26th to 28th June. It was the 3rd WGM aimed to finalize competency framework, learning outcomes and syllabus (vocational area) for 9th grade 'Kaushal Bodh' book under New Education Policy (NEP). The meeting was attended by 19 members of the Textbook Development Team (TDT). Team members visited Pabal campus on 28th June to finalize working documents. Members also visited various skills training & technology development work of Vigyan Ashram.



F] Diploma in Basic Rural Technology (DBRT) updates:

- i) A National Institute of Open School (NIOS) examination for Batch 2023-24 was held at campus during 3rd to 10th June. 14 students appeared for the examination.
- ii) DBRT students (Batch 2024-25) successfully completed their 2 month on-field summer internship program and joined Pabal campus. Students completed submissions of individual projects and appeared for final examination on 16th & 17th June. Here are some of the highlighted learning activities of students as-

Workshop section: Team of Saurabh, Ishwar and Hrishab completed work of wardrobe doors fabrication in boys' hostel. They did fabrication of 20 stools for home & health section and completed fabrication work of dining table. They learnt plasma cutting and wood-router operation while completing this work. The team earned a community service of Rs.13,948/- as labour charge (total value of work Rs.79,881/-). Bhagwati completed wall painting work for the kitchen while Umesh & Gopal fixed a chain-link mesh in the home & health section. Total value of community service work for workshop section was Rs. 1,49,578/- (students earning Rs.30,772/-).

Energy & Environment section: Students installed 8 exhaust fans in the newly built polyhouse. They repaired the DOL starter and fixed 3 fuses for the 3-phase water pump. Students installed 3 switch boards, ceiling fans, LED bulbs in kitchen and boys hostel premises as a regular maintenance activities. The total value of their community service work was Rs. 33,192/-.

Agriculture & Animal husbandry section: One of the cow on campus got infected with lumpy disease. Students worked with veterinary practitioners for her treatment. Students also collected 120 eggs from a poultry farm and loaded 60 of them in an egg-incubator machine.

Home & Health section: In this section, students learnt making of hand-made soaps, dish-wash liquid and liquid soap while participating in IBT instructor training program. They also practiced making Amla candy, Moringa-Peanut chikki and other regular bakery products. Students earned a community service of Rs.11,990/- during June month.

Smokeless chulha: Workshop team have fabricated a smokeless chulha for Village Community Development Association (VCDA), Pabal. Team first made CAD design & small prototype using laser cutter in Fab-Lab. The working model was fabricated using plasma cutter and CO₂ welding. Total cost of fabrication was Rs. 26,323/-



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

Support for Vaan-Dhan Kendra:

EDP is providing value addition & entrepreneurship support for commercialization of Non-Timber Forest Produce (NTFP) products to 4 Vaan-Dhan kendra in Pune and Ahilyanagar district.

On 18th & 19th June, Ganesh & Ranajeet gave presentation about various educational & EDP programs to Smt. Leena Bansod (Commissioner Tribal Developmental, Govt. of Maharashtra) and other senior officers of Shabri Mahamandal at Nasik.

On 7th June, Ganesh visited Durgadevi Vaan-Dhan kendra at Ambe (Junnr, Pune) to provide technical support on Karonda, Jamun processing.



Mentoring support & field visits:

- A social media promotion support was provided to Mr. Anand Mohite. He has started 'Shrutika Natural Dehydrated Agro Products' for processing of Moringa and other vegetables.
- An enterprise registration support was provided to 3 new entrepreneurs (Udyam Certificate-1, FSSAI License-2)

Hero of the month:

Mr. Sachin Cholke has started a food processing unit “Cholke farm” at-Asthagav village (Tal-Parner, Dist.-Pune). At present he is processing Jamun fruits sourced locally. The EDP section has provided skills training and marketing-linkage support to Mr. Sachin.

HJ Technology development updates & Design Innovation Centre (DIC):

DST-SUNIL project updates:

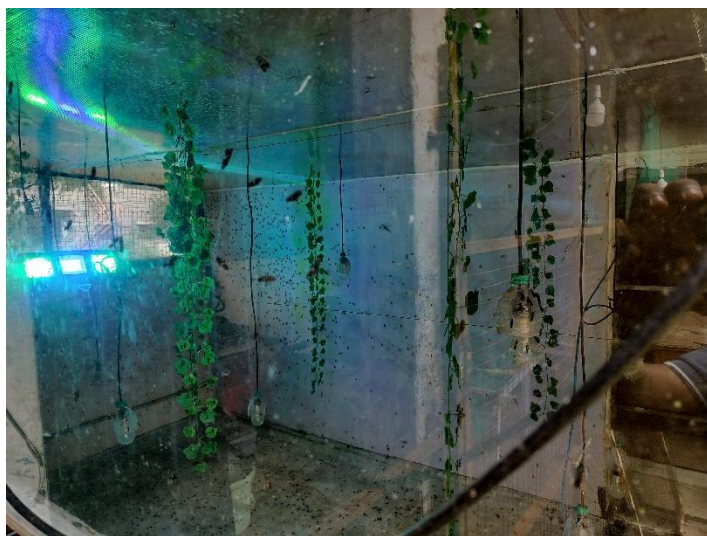
Polyhouse climate control & pest prediction system:

- Pranit and Ganesh visited capsicum cultivating farmers at Rajgurunagar (Pune), Sangamner (Ahilyanagar) and Pandharpur (Solapur) for climatic-sensors and data loggers installation. On 4th & 5th June, data loggers were installed at individual farmers of Rajgurunagar and Sangamner respectively while, on 15th June data loggers were installed at Mahakrushi FPO Pandharpur.
- New capsicum crop cultivation work has started in the polyhouse at Pabal campus. The team has added compost and de-oiled neem-cake, installed a new drip line and started bed preparation work.

Black-Soldier-Fly (BSF) & Backyard poultry farming:

As a part of standardization BSF farming technology team made following modifications in breeding chamber & rearing bed as –

- Present breeding chamber environment is now modified with addition of blue, green and white LED lamps. We are also looking for the addition of UV-A lamps for improving the breeding environment. Mahesh also tested the addition of artificial (decorative) vine as flies resting points, use of 1-Octanol as attractant for egg laying.
- A new breeding chamber was designed and fabricated by Mahesh and Ravindra. The chamber measures 7 × 1 × 1 ft, featuring a black compartment at the base for pupae, a transparent glass top, and mesh walls on all four sides. The mesh walls are fitted with 50% shade-net water curtains to regulate conditions. The team will evaluate the chamber's performance against older designs to assess its effectiveness.
- The BSF rearing method was also modified by reducing the height of the rearing bed (waste pile) to 6 inches from earlier 18 inches. This has resulted in better temperature control and FCR of larvae.
- In the month of June, total 26.65 MT of wet-waste was processed at Rajgurunagar Municipal Council (RMC) dumping ground. Total 126 kg of BSF larvae were produced for breeding chamber.
- In addition to municipal waste, 1200 kg of processed food (Bakarwadi) also sourced from Pune for trial on recycling of expired processed food waste with BSF.



- Higher percentage of oil (30 to 35 %) in BSF larvae may lead to fatty-liver disease in poultry & fish. To overcome this, a trial of the solvent-extraction method of oil extraction started at Pabal campus. In June month Rutika conducted trials on use of Ethanol, Hexane, and a combination of Isopropyl Alcohol (IPA) & Hexane for BSF solvent extraction. She found Hexane & combination of IPA gives best results for non-grinded (whole) dried BSF larvae.

Solar Dome Dryer:

- Prasad & Akshay installed a flat-bed solar dryer at Molgi village (Tal- Akalkuwa, Dist- Nandurbar) on 6th June. The dryer has a polycarbonate sheet cover for maximum heat and is best suited for on-field drying of leafy vegetables, fruits etc. They conducted local fabricator's training for fabrication & assembly of flat-bed dryers (Mr. Rajesh Padvi). Farmers training was conducted on 7th June for drying of Mahua seeds (Todambi) and Raw-mango (Amchur). The dryer showed 50 % moisture reduction for Mahua seeds and 73.47 % moisture reduction for Amchur for 5 kg loading capacity & 36 hrs. drying period. Similar results were recorded for moisture removal (58.66 to 61.29 %) for Subabhul and lemon grass leaves at Pabal campus. Farmers were very satisfied with results as this drying efficiency was achieved in cloudy (shady) conditions. The team is planning further trials after the rainy season.
- Akshay (IIT-Living lab intern) visited a drying enterprise of Mr. Anand Mohite at DhMari on 24th June and Mr. Vinod Hande Wadmukhwadi (Pune) on 30th June to study dryer efficiency. We are helping both entrepreneurs in setting up drying protocols and improving drying efficiency.



Other research-fellow projects:

- Fogger efficiency study- Tejaswini & Akshay completed installation of exhaust fans in an experimental polyhouse. They found that theoretically polyhouse structure captures 12.8 KJ/sec heat while as per experimental data 2.99 KJ/Sec heat gain was recorded. Lower heat gain may be due to cloudy conditions during the experiment. Considering these values, it was decided to install fans with a CFM rating of 4000 (8 fans @ 500 CFM), which is approximately half of 8000 CFM (calculative value) and double of 2000 CFM (practical value).
Foggers clogging due to hard-water- Tejaswini started an experiment of avoiding clogging of fogger due to hard water. To check calcium clogging, foggers are fed with 2100 ppm CaSO_4 (calcium sulphate) water. Due to cloudy conditions, she did not get calcium deposition in fogger during June month.
- LICOR-6800 photosynthesis analysis- Sayali completed 33 graphs for tomato and 24 for turmeric crop in June. She also planted ginger, garlic, chili, bottle gourd, bitter gourd, brinjal, carrot, and onion crops for data collection in the polyhouse.
- Nikunj Jain (Innovation Design Labs Pvt. Ltd) and team of Customized Energy Solutions India Pvt. Ltd. built the 2nd prototype of trolley-mounted solar PV-based electricity generator. Its mobile solar system designed

specifically for rural applications such as water pumping, remote lighting, and other off-grid energy needs. The DIC students are actively working with the IDL team to field-test the system and gather feedback from local farmers.

- Aditya processed 47 kg carrot to produce 7.76 kg of carrot-halwa mix while setting the ready-mix recipe protocol. He also worked on Jawar-flex making machine modification for AgroZee Pvt Ltd and bottle-gourd halwa-mix, protein-bar and tomato powder making projects along with other DIC interns.
- In soil analysis laboratory, team had tested 2 soil and 2 water samples and also prepared 300 bottles of H₂S strip test.
- Pranit has started a fresh trial for studying the effect of seaweed extract on 374 lettuce plants in DWC & NFT hydroponics. The seaweed extract based fertilizer is prepared by Mr. Akshay Jadhav (Rafttech solutions, Mumbai). We are helping Rafttech to test products-claims through field trials.

Fab academy updates: Pradip, Shivraj and Ramesh successfully completed all assignments & final project submission of Fab-Academy-2025 course. Their final project & assignment work can be viewed on - <https://fabacademy.org/2025/labs/vigyanashram/> . Their submissions will be evaluated by local & global evaluators for certification.

I] Learning By Doing (LBD) educational program updates:

Learning By Doing (Uttar-Pradesh):

- UP team was engaged in preparation for teachers training. They are helping Samagra team in preparing training calendar, batches for training. The teachers' training will be conducted from August 2025. The team is preparing training content along with a hands-on activity list for coming training.

J] Atal Tinkering Lab (ATL) & DIY lab update:

ATL Karnataka:

- The team conducted 3 boot camps for ATL students in June. The camps were conducted at Raichur, Bagalkote and Kolar ATL labs on 3rd – 5th, 9th – 12th and 19th – 21st June respectively. A total 102 students and 17 teachers attended the camps to learn basic electronics & robotics skills through hands-on activities.

ATL Andhra-Pradesh:

- Shri. B. Shrinivas Rao, the State Project Director, Samagra Shiksha, Andhra Pradesh convened a meeting on 11th June to review the ATL implementation and action plan to be implemented for the Academic Year 2025-26. Dr. Yogesh Kulkarni participated in to this meeting along with Mr. Madhusudan Sheshagiri, Education Specialist, UNICEF to share the program updates with the SPD.
- Vigyan Ashram team participated as a resource persons in orientation workshop for ATL teachers at Samagra Shiksha SALT office, Vijayawada. During the workshop, a review of ATL activities during the past 3 years, its impact on students' learnings was taken. A total of 31 ATL teachers participated in the workshop to share their experience on students' learning, key challenges etc. Kishore and Venkatesh shared various activities and support provided to ATL labs during the past 3 years from Vigyan Ashram. Shri. B. Shrinivas Rao (State Project Director, Samagra Shiksha) convened the meeting, The DSOs and teachers were given training on 'LEAP' (Learning Excellence in Andhra-Pradesh) app by Vigyan Ashram.



- Kishore also attended AP state ATL consortium in Vijayawada on 26th June. The Consortium for ATL is a collaborative initiative by Samagra Shiksha, UNICEF and Vigyan Ashram, aimed at fostering innovation and entrepreneurship among students through Atal Tinkering Labs (ATL) in AP. The consortium also consists of members from other technical agencies, vendors, NGOs and Atal Innovation Mission, Government of India.

Do-It-Yourself (DIY) Lab updates:

- The membership students at DIY lab (Pune) made mobile phone holder, various gift articles, key-chains, wall-mounts etc. in resin-art. Students also designed and worked on prototype building for laser- LDR sensor based home security systems.
- Kunal Raut & Anish Agarwal (B.Tech-CSE, MIT World Peace University) completed their 6 months internship program. Both worked on developing STEM education models for high-school students.



K] Other tit-bits:

- A Marathi video pod-cast on 'Vigyan Ashram's methodology of skills training & entrepreneurship development' is published by Agrowon news (Sakal group).
<https://www.youtube.com/watch?v=6iuaqRxm2U>. It is been viewed by 3100+ viewers. We are very thankful to Sakal group for the video-pod cast.
- Gajanan Darsimbe and Indrasing Walvi joined the VA team to work in the school education program.
- Swapnil Dokhale and Dipali Kamble resigned from their post Project-Manager (TAPRISE) and Fab-Lab trainer respectively. We wish them best for future endeavour.
- Weather record – Rainfall of the month – 178.86 mm (Total: 178.86 mm), Max temp-34.00° C, Min Temp – 21.00° C, Humidity –85%, Water height in well– 6.09 M.
- Energy consumption record- Electricity unit – III Phase- 1169 units, I Phase import- 2343 units, solar export III Phase – 281 units, Solar export I Phase- 19 units, Solar generation (off-grid)-78 units, DG used – 06:30 Hrs, Biogas- 34.85m³ (dung used-687.0 kg)
- Animal Husbandry update – Milk production – 396 Kg (Gross profit Rs: 4,277/-). Poultry egg produced -60
- Online visitors: www.vigyanashram.com – 654, Campus tour visitors: 102

ASMITA updates: In women-led tailoring unit (ASMITA) team earned a community service of Rs.11,967/- while completing order for head-caps (59), Kitchen & lab apron (34), T-Shirts (38), Frock (38). Team also collected waste cloth to recycle it while making hand-bags & kids garments.



K] Data Report: <https://listwr.com/X9IVb1>

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Schaeffler India, Texol Engineering Pvt Ltd, INDUSIA Endowment, Savitribai Phule Pune University, Dept. of Science & Technology, La-Foundation, The Prabhu Trust, STARS Forum and many individuals and foundations).

Photo Gallery:



Rocket Launcher activity at balika vidyalay, WB



DBRT students fabricating stools



Phenyl making activity in teachers training program



Trolley-mounted solar PV-based electricity generator



Sprinkler demo for farm pond



Anish and Kunal completed Internship @ DIY Lab Pune

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