

Vigyan Ashram Status Report

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- Engineering college students training workshop @ Andhra Pradesh
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A] Development of Polyhouse climate control System

Shreyas successfully developed and completed installation of automated shade-net curtain closer in polyhouse. Shade-nets are used by farmers in polyhouse to control light intensity & temperature. An automated curtain system will save time with better growth of crops. System can be operated through mobile or light intensity sensor. It's developed as a part of an 'automated climate control system' under the DST-SUNIL project. After the lab trials, the system will be installed in farmer's field for feedback.



Pest prediction system:

On 5th, 7th and 11th August, Ganesh & Pranit visited polyhouse farmers at Rajgurunagar (Pune) and Nimgaon Jali (Ahilyanagar) villages to troubleshoot data-logger devices. They replaced faulty devices and also collected data on pesticide use patterns in capsicum crops under polyhouse conditions.

B] Engineering college students training workshop @ Andhra Pradesh

A 3 days training workshop for engineering students was conducted at JNTU-GV College of Engineering, Vizianagaram (Andhra-Pradesh) during 21st to 23rd August. Training was a part of 'strengthening & capacity building of ATL schools' project. Students learnt hands-on skills in basic electronics, Arduino programming, use of Artificial Intelligence (AI) tools in design & implementation of student projects in ATL labs. 40 students were trained and they will be mentoring ATL for 60 hours. Training was organized in collaboration with UNICEF, Vigyan Ashram, and Board for Community Development through Education (BCDE), Andhra Pradesh State Council of Higher Education (APSCHE) and Samagra Shiksha Abhiyaan (SSA). BCDE is facilitating collaboration between college students and Atal Tinkering Labs (ATL) in schools.



C] School based vocational program updates:

i] Permission from SCERT

We have received permission from SCERT to implement Vocational Education in schools from Grade 6 in 50 schools of Pune District. We are doing a pilot to introduce VE from Grade 6. We are also doing baseline for measuring impact of VE from Grade 6.

ii] Teachers training for Vocational Education (VE)

We have started VE in 6 schools from Pune city. There are few more schools interested to start VE in their schools. We have conducted online meeting of their Principals. Training for their School Teachers was conducted at JPNC from 21st to 23rd Aug at Pune. 23 teachers from different schools from Pune and 4 teachers from Kousal Pathashala, Bijapur (Chhattisgarh) participated in the hands-on projects related to three forms of work.

iii] Inauguration of vocational program supported by Pravin Masalewale trust was held on 18 August 2025.

Mr. Rajkumarji Chordiya (chairman, Pravin Masalewale group) was the chief guest to the program. The program will be implemented in 12 schools in Parabhani and Hingoli district. (VATF)

iv] IBT Highlights

IBT and VE activities are progressing well in the new academic year (STARS Forum).

Kitchen Garden Project at Gulani School - Students from Gulani school prepared terrace garden using locally available material. They planted vegetables and herbs. Students prepared beds on their own and sowed the seeds. They documented all the farming activity. Students are also maintaining records of plant growth, fertilisers, labour hours etc. (STARS Forum)



Salumbre school made and sold 28 Makhars for Ganesh Decoration



Cooking without Fire : Making Dadpe Pohe @ New English School, Pune



Tie and Dye project : Sant Dnyaneshwar Vidyalaya, Chas

v] Teachers 'Refresher training' in Uttar Pradesh:

Team in UP started conducting refresher 'Teachers training' at 'Institute of Entrepreneurship Development (IED), Lucknow'. These are the teachers who underwent training last year and already implementing 'Learning by doing' program. Now we have decided to involve DIET professors as 'Master Trainer'. Training of these master trainers from DIET from different district was conducted from 5th – 8th Aug (59 DIET trainers) and 18th – 21st Aug (75 DIET trainers). These trainers will join us for training of teachers from their respective district.

Following 'Refresher training' was conducted in Aug 2025.

- a) Batch 1: 11 August to 12 August 2025 – (District – Jaunpur, Pratapgarh) –Total: 92 participants.
- b) Batch 2: 13 August to 14 August 2025 – (District – Hapur, Lalitpur, Mahoba and Prayagraj) –Total: 91 participants.
- c) Batch 3: 22 August to 23 August 2025 - 3 (District – Azamgarh, Firozabad, Manपुरi) –Total: 103 participants.
- d) Batch 4: 27 August to 28 August 2025 – (District – Bijnor, Hamirpur, Maharajganj, Sambhal) –Total: 94 participants.
- e) Batch 5: 29 August to 30 August 2025 – (District – Kheeri, Mathura, Sant Kabeer Nagar) –Total: 104 participants.



vi] STEM in West Bengal and Jharkhand (STARS Forum)

- 1) Teams in Ranchi and Murshidabad are visiting schools and conducting STEM activities. Mr Ranajeet Shanbag visited Ranchi on 6th, 7th August and took review of progress of project. He also met UNICEF and Samagra Shiksha officials.
- 2) Team participated in the STEM Manual proofing workshop at UNICEF office Kolkata on 4th Aug. The workshop was attended by 8 teachers deputed by SSC board to evaluate content developed by Vigyan Ashram.
- 3) Mursalim and Suman gave presentation and STEM Kit demo at Samagra Shiksha Mission office on 12th Aug.
- 4) A registration and preparation review meeting for the "Seed the Feature Entrepreneur Competition 2024-25" was held with Chikhli, Dhamari, and Hivare schools on 13th Aug. A planning was also done for all schools to submit their projects for the Technovation competition before October.





TAN-gram activity in KGBV, Ranchi



Water testing at Murshidbad



Activities at school in Murshidabad

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

Training on poultry & goat farming:

Master training workshop: A training workshop for 2 master trainers from LINSI Foundation was conducted at Pabal campus during 18th to 22nd August.

On-field poultry farming training: An on-field training workshop & demonstration was conducted in Navalpur, Khurchimala and Dibang pada (hamlets) of Akkalkuwa block (Dist- Nandurbar) during 23rd to 25th August. All these hamlets are very remote & located in hilly regions. Training was conducted during 23rd to 25th August in collaboration with Jan-Seva Mandal (Nandurbar). Total 20 tribal farmers participated in the training to learn fabrication of bamboo-based low-cost poultry cages, vaccination and feed management of birds.



Training Need Analysis (TNA) @ Amravati: Ganesh visited Melghat region of Amravati district to meet local voluntary organizations and conduct Training

Need Analysis (TNA) on 11th & 12th August. He visited Vigyan Ashram alumni entrepreneurs and also held meetings with local organizations Khoj, Samarpan and local schools & colleges to explore possibilities of collaborations in skills training & technology-based entrepreneurship promotion.

Webinar: 'Opportunities in Salad making business' webinar was conducted by the EDP department on 16th August. Webinar was conducted by successful entrepreneur Ms. Gayatri Munde (founder of NourishEd food enterprise). She shared her experience in establishing health-food based enterprise, basic recipe and work-flow, packaging & marketing requirements, ROI etc. with 75 participants. EDP department is planning a 2 days hands-on training workshop for interested participants.

Hero of the month:

Ms. Kirti Pawar started a 'Shri. Rameshwar Misal & Cold-Press oil' outlet at Mula-Dham Phata (Tal- Rahuri, Dist- Ahilyanagar). She has made a unique blend of cold-press oil based healthy snacks in her new venture. She had taken food-processing training with us.

E] Design Innovation Centre (DIC) review meet & technology development updates:

Vigyan Ashram has been implementing the DIC program as a spoke-centre of Savitribai Phule Pune University (SPPU) since 2016. A third-party assessment of Design Innovation Centre (DIC) scheme was conducted on 20th August by National Institute of Labour Economics Research and Development (NILERD) an autonomous institute under NITI Aayog (GoI). Important milestones, technologies and skills training conducted under DIC program were presented by Vigyan Ashram's DIC team at Research Development Foundation Park (RDFP, SPPU) by way of a formal presentation & product exhibition.



DST-SUNIL project updates:

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

- Mahesh processed 26 metric tons (MT) of bio-waste with Black Soldier Fly (BSF) larvae to produce 119 kg larvae & 123 g eggs from the breeding chamber. He also procured additional 250 g larvae brought from Bangalore to increase processing capacity. On 1st August, Mr. Rahul Marathe (Mitrakida foundation) visited Pabal campus to guide us on improving egg yield in the breeding chamber.
- A poultry egg incubator of 150 egg hatching capacity was installed at Mr. Dinkar Shinde (at- Wetale, Tal-Khed, Pune) on 2nd August. Ganesh provided training to farmers on loading of eggs, regular maintenance of machines and trouble-shooting. Mr. Dinkar has started backyard poultry farming and is now venturing into healthy-chicks production.
- Ranajeet & Ganesh visited egg incubation business at Kurkundi village in Khed block. The business is run by Ms. Rupali Rale. She is having 2500 bird poultry farms and using an egg incubator for the past 3 months.
- On 8th August, Ganesh visited 10 back-yard poultry farmers in Dimbe region. He guided farmers on vaccination, first aid & feed management.
- A two-day training program on advanced technologies in poultry farming was conducted at Vigyan Ashram on 29th & 30th August. Training was attended by 13 farmers to learn technologies in chick production, vaccination, and feed-formulation.



Other technology development project updates:

- Seaweed extract trial on hydroponics lettuce- We are providing technical support to M/S Raftech Solutions Pvt Ltd. The seaweed extract (developed by Raftech Solutions Pvt Ltd) application trial on hydroponics was conducted during 10th July to 11th August. Trial showed significantly enhanced lettuce production with yield increased by 9.05% in NFT and 17.7% in DWC setups as compared to control plot. Statistical analysis

confirmed significance in DWC ($p = 0.012$) while NFT remained non-significant ($p = 0.088$). A similar trend of results was recorded in an earlier trial on lettuce conducted during 16th March to 26th May 2025. (VATF)

- Prasad and Akshay conducted trials on drying of wild-vegetables in a solar dryer at Pabal campus. They found a 19-25 % drying rate per day for different vegetables. The results are encouraging as these trials are conducted on cloudy days. They are analysing data for modification in air-flows for better drying efficiency.
- Fogger efficiency experiment: Tejaswini concluded 1st set of data collection on fogger efficiency experiment. She found the efficiency of foggers depend heavily on the droplet size & flow-rate. It is found that Jain irrigation (super-fogger) achieved maximum efficiency with 5.52 ° C temperature drop with 44.1 lit water usage in 14 min followed by Net-film (Cool Net Pro) and Jain irrigation (4-way) fogger.
- Photosynthesis efficiency data collection (LICOR-6800): Sayali concluded data collection work for 4 crops (Capsicum, Turmeric, Cucumber & Strawberry). She found, Capsicum has highest photosynthetic capacity in terms of both V_{max} and J_{max} (55 & 100 $\mu\text{mol m}^{-2} \text{s}^{-1}$ respectively), signifying strong biochemical and electron transport capacities under optimal temperature ($\sim 30^{\circ}\text{C}$). Turmeric and cucumber exhibit moderate values with cucumber adapted to higher temperature peaks ($\sim 38^{\circ}\text{C}$), while strawberry shows slightly lower photosynthetic capacities suited to cooler conditions ($\sim 25^{\circ}\text{C}$). She is working on reconfirming the data set and also started work on collecting data for 6 more crops. (VATF)
- Gasifier trial: Divyanshu (IIT-B Living lab intern) conducted a gasifier trial for 4 different wood feeds. He recorded the highest efficiency for Nilgiri (26.70%) followed by Sagwan (26.33%), Babool (17.01 %) and Siris (12.37 %).
- In food processing, Aditya prepared 35 pouches (100 g) of 'Carrot Halwa-Mix'. He modified the recipe with improved colour & taste.
- Sujay is working on 'Bottle-guard halwa pre-mix'. His recipe of shredded bottle-guard half-cooked and further dried with addition of milk found better acceptability. But pre-mixes fail to regain moisture completely making chewy constancy. He is working on improving the texture & consistency of the final product.
- The DIC students team completed an order for 2 sets of 'flat-bed solar dryer'. Dryers are fabricated & transported to Savitri Skills Shala (Karjat, Raigad).
- In the month August, Juvencio Maeztu (MIT Boston Business School), Tejaswini Patil (Senior Research Fellow), Devendra, Divyanshu & Harshad (IITB Living Lab) completed DIC internships while Dnyaneshwari Warule (B.Sc., Agriculture), joined the DIC team.

TAP-RISE project updates:

Under Technology Acceleration Platform for Rural Innovations and Social Entrepreneurship (TAP-RISE) project following technologies are added for acceleration support. i) Solar heat based aromatic plant distillation unit (Mr. Vikrant Katekar, IIT-B CTARA) ii) Jackfruit cutter & solar dryer (Dr. Raghu Ram Das, Mitraniketan, Tamil Nadu) iii) Millet based products (Mr. Joram Aku, Arunachal Pradesh).

F] Independence Day celebrations:

The 78th Independence Day was celebrated at Pabal campus with joy & enthusiasm. After flag hosting, DBRT & DIC students performed cultural programs including local folk dances, dramas and individual performances. This year, DBRT students presented 16 dance performances. A dance-teacher was appointed to train students in basic steps. On 14th August, students & staff team participated in 'Shramdaan' activity. They cleaned the campus

while doing repair work for the waste-water treatment plant, a firewood storage area and guest hostel building. Students of the home & health section prepared chocolates & distributed after cultural program activities.



G] Diploma in Basic Rural Technology (DBRT) course updates:

In the month of August, DBRT students celebrated Ganesh festival, Raksha-Bandhan and Dahi-Handi festivals. Students practised for Barchhi dance. Students learnt clay-art while making of Ganesh idol, making of Rakhi's and event organizations skills through celebration. Apart from these learnings students worked in their respective sections to learn new skills & technologies. Following are some of key learning activities for August as follow-



Workshop section:

Development of Tiny house: We are working on designing a pre-fabricated tiny house. It will be a 100 ft² pre-fab, dismantlable housing block at Pabal campus. The house will be equipped with bathroom, bed, study table, small kitchen and storage space. This work is undertaken against the order of Ms Archana Kulkarni. Students in workshop section, learnt foundation layout and basics of civil construction (RCC and brick laying) while working on tiny-house and new-guest hostel construction. They learnt basic CAD (goggle sketch up), making RCC foundation columns, basic metal fabrication and pre-fab wall erection skills through this work. Students also started a brick-laying work on the 1st floor of the guest-hostel block. They are using AAC (Automated Aerated Concrete) blocks for constructing 6 rooms (1500 sq ft). The total value of their community service was Rs. 25,941/- including students earning Rs. 5,818/-.

Energy & Environment section: In the electrical section, students prepared demo-models of electrical wiring & common home-appliances for their section. They learnt wiring diagrams, working principles and components of iron-press, mixture grinder, ceiling fan, water filter etc. while preparing display boards for the section. Students installed ceiling fans and switch boards, CCTV cameras as part of routine maintenance activities. They went for field visits to the electrical market and solar exhibition in Pune city. Total value of community service for August month was Rs. 1,670/-.



Home & Health section: Students team in Home & Health section, prepared a health-chart for all fellow students while recording BMI, Haemoglobin, blood-group data. They also calculated calories requirements for campus while studying campus kitchen food-planners. Students also visited the Public Health Centre (PHC) to request a detailed health camp. Apart from this, students also learnt the making of Modak (200 pieces), Chiwada, Chikki and Gajar Halwa, bread as part of festival treat during Ganesha Festival. The total community service for the section was Rs.16,345/-.

Agriculture & Animal husbandry section: In the farming section, students learnt drip irrigation & fruit plantation layout while doing projects on fruit-trees plantation. They planted 58 fruit trees in a 2200 Sq ft area and also installed a drip system. Students also sowed ornamental sunflowers and amaranth (rajgira) crops in 3 Gunta lands. Students visited a 'vermicompost' unit in Zodagewadi (Pabal) to learn the science & economics of composting. In the poultry farm, they started a new batch of 100 broiler birds while learning brooding, feeding and vaccination skills.

Computers & soft-skills training: In the computer section, students started learning basic software applications like word, power-point, excel, Canva for poster design, Gmail & internet applications. As a part of soft-skills training, student-clubs were started for learning spoken-english, extra curriculum studies, sport (carrom & chess) and computers.



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

ATL Lab updates:

Impact assessment study: UNICEF has assigned to carry out 'Impact assessment' of 'Atal Tinkering Lab' project to an third party external agency M/S New Concept, New Delhi. An orientation training program on designing assessment tools was conducted for data collection on 1st August at Hyderabad. Training attended by 16 participants including research volunteers, field staff and representatives from M/s. New Concept (3rd party assessor) and UNICEF. In the month of August the data collected team visited ZPHS Movva & Penamaluru (Andra-Pradesh), ZPHS Kukkinda, Vikarabad and GHBS Kachiguda (Telangana) and MDRS Kolar (Karnataka) school. The impact assessment data collection work for all ATL schools in 3 states is expected to be completed by the end of November.

Team also conducted following online training session for ATL schools' teachers & students in the August:

SN	Date	Topic	Link
ATL Andra-Pradesh			
1	05/08/2025	Preparing schools for Mega Tinkering Day	Click here
2	19/08/2025	Smart LDR Robot	Click Here
3	26/08/2025	Build Sound Intensity App	Click Here
ATL Telangana			
4	06/08/2025	Learn Ohm's Law through- Simulation and Hands-on	Click here
5	13/08/2025	Vehicle Speed Detection using IR sensors	Click Here
6	20/08/2025	Smart LDR Robot	Click Here

ATL Karnataka			
7	01/08/2025	Blood Circulation	NA
8	22/08/2025	Detection of heat during chemical reaction- Changes Around Us	Click Here
9	29/08/2025	Smart LDR Robot- Light, Shadows and Reflections	NA

DIY Lab updates: Weekly batch students celebrated Independence Day and festival of Ganesh with spirit of DIY. Students worked on following projects as their learning activities during August-

Activity name	Activity description / Video link
Independence Day celebration	1) Learning basic programing through scratch animation (https://youtu.be/eIQUeZ5A0H4?si=PwZv1OKxGBI01Y2M) 2) Using a Double Pole Double Throw (DPDT)switch (https://youtube.com/shorts/dfYdO8cxbkQ?si=j0ZADMWIELFmKSMI) and servo motors. Students created a project on making model of 'flag hosting' (https://youtube.com/shorts/gSVWtLe_gwo?si=7xqABnnnQ9v-wxe)
Ganesha festival decoration	A 3D printed 'Ganesha' using Tinkercad and Paper folding using Pepakura (https://youtu.be/IwLM7EIBKqM?si=BfJd5CxseaLIBN1v) Design & fabrication of 'Ganesh makhar' with mobile app-based switch. (https://youtu.be/ckA8R7ZYwBE?si=c28SbxZHLckyE0IE). Students also learnt fabricating 'Neon LED Sign Board' while making a DIY lab sign board.

I] Other tit-bits:

- The women led tailoring unit (Asmita) team conducted a one day training workshop for 'Nauwari readymade saree' stitching on 24th August for 8 girl participants. The team also earned a community service of Rs. 24,817/- while completing the order of T-Shirts (13), Kitchen apron & caps (138), bags (3).
- A team of Public Health Centre (PHC) in Pabal village conducted a health-check camp for staff & students on campus on 26th August. A test for health parameters like CBC, calcium, thyroid function test (TFTs) etc. tests were conducted free of cost for 74 participants.
- A DST-SUNIL program website (<https://dstsunil.com/>) development work was reviewed in an online meeting conducted on 26th August. The meeting was chaired by Dr. Anita Agarwal (HOD, SEED Division).
- Pandit Jahwarlal Nehru Vidyalaya, Nirgudsar (Tal- Ambegaon, Pune) felicitated Vigyan Ashram for its work in school based vocational education. The felicitation program was conducted on 15th August in the presence of Honourable Member of Parliament Shri. Dilipraoji Valse-Patil. We are very thankful for this recognition & appreciation.
- IIT-Bombay E-Yantra lab team visited Pabal campus on 18th August. A team led by Prof. Kavi Arya, visited to discuss future collaboration for the e-Yantra Innovation Challenge (eYIC).

- vi. A team of faculty members, industrial experts and student volunteers from E-Yantra lab (IIT-Bombay) visited Pabal campus on 18th August. Team led by Dr. Kavi Arya, Mr Satish Gokhale and Dr Raghunath Iyer. We have discussed a collaborative training workshop for college students participating in the e-Yantra Innovation Challenge (eYIC). It was decided that a 5-days residential training workshop for e-yantra students will be organised at Pabal campus.
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- vii. Weather record – Rainfall of the month – 85.82 mm (Total: 320.87 mm), Max temp: 30.00° C, Min Temp: 21.00° C, Humidity: 80%, Water height in well: 5.20 m, Waste-water COD: Boys hostel: 252 ppm (safe) , Girls hostel: 190 ppm (safe)
 - viii. Energy consumption record- Electricity unit – III Phase- 897 units, I Phase import- 2454 units, solar export III Phase – 825 units, Solar export I Phase- 28 units, Solar generation (off-grid)-68 units, DG used – 04:10 Hrs, Biogas- System under maintenance
 - ix. Animal Husbandry section update – Milk production –240 Kg (Profit Rs: 195/-). Poultry egg produced - 149, Hen sold – Rs.14800/-, New poultry batch (broiler) started – 100 chicks
 - x. Online visitors: www.vigyanashram.com – 799 Campus tour visitors: 184.

JJ Data Report: <https://surl.li/tnwbyy>

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Photo Gallery:



Independence Day at ZPHS Penamaluru



Independence day celebration



Teachers training at Pune



Mega Tinkering Day – Participation



DBRT Students enjoying free time



Solar lamp installation by AISSM Institute at campus

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