

Vigyan Ashram Status Report

Volume 42 Issue 7

July 2025

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A] 30th July 'Open House Exhibition':

The annual 'Open House Exhibition' was organized on the occasion of the 22nd anniversary of Vigyan Ashram's founder Dr.S.S.Kalbag. The live demonstration of innovative technologies were done on 29th & 30th July. The exhibition attracted more than 3500 visitors, including students, farmers, entrepreneurs, and representatives from various institutions. Key highlights included demonstrations of different solar dryer models and their applications, Black Soldier Fly (BSF) based bio-waste processing along with processed larvae, live demo of photosynthesis rate measurement & agrivoltaics, millet-based food products, climate control sensors for farmers etc. Products developed by the Asmita (women-led tailoring unit) and advanced technologies including drone, an AI based cooking device and 3D printing were on display. Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS) has send their 'Museum on wheel' bus for the exhibition. It has exhibits of various Indian arts forms. On the occasion two alumni entrepreneurs were felicitated—Mr. Dhananjay Abhang (Pune) with the "Special Achievement Award" and Mr. Mayur Chaudhari (Pabal) with the "Young Entrepreneur Award." We are very thankful to all our supporters, Pabal villagers for their continued support & encouragement (VATF).



B] Welcome! 'Diploma in Basic Rural Technology (DBRT)- 2025-26 batch:



A batch of 45 students joined VA for the Diploma in Basic Rural Technology (DBRT) program. The DBRT (2025–26) course formally commenced on 10th July, with students from Maharashtra, Uttar Pradesh, Bihar and Gujarat. There are 16 tribal students including 9 girls.

Over the next 12 months, the students will stay on the campus and receive training in entrepreneurship and a wide range of technical skills. The curriculum covers metal fabrication, electrical and renewable energy, food processing, personal health, and farming. This year, we made few changes in our syllabus and teaching –

learning methodologies. We have decided to make an individual course plan for each students. We have more focus on using AI and computer applications in each vocations. We are also introducing new skill areas such as CNC machining and garment manufacturing. Students key learning highlights & project activities for July month are as follows-

Home & Health section: Students of home & health section worked on value-addition of Amla & Jamun fruits as their project. Students processed 39 kg Amla to make Candy (14 kg), Pickle (8 kg), amla-powder (5 kg) and morawla (2 kg). Also, they processed 15 kg fresh jamun fruits for making of juice (8.5 lit), Jam (3 kg) jamun-powder (1kg) and jamun seed powder (1 kg). Apart from this, students also learnt to make moringa chikki, peanut laddu, mix-millet laddu, soyabean nuggets. Total sale was Rs.28,445/- in July. This includes food-stall, tea snacks supply, weekly bread for kitchen and processed food sales.

Workshop section: In the workshop section, students worked on project design & renovation of cafeteria for food-processing section. For this, they renovated old-geodesic dome structure while learning brick laying, metal fabrication, and wall-painting skills. Students also fabricated an innovative foldable umbrella structure for open seat-out of cafeteria. Students earned a community service of Rs. 20,684/- including labour charges of Rs.3,500/-

First 'Taste of entrepreneurship'- DBRT students experienced a first taste of entrepreneurship while learning various new skills. Students earned a community service of Rs.10,820/- for work invoice value of Rs.1,07,603/- during July month. Student sold various food items, plant seedlings, electrical extension boards, on campus civil and plumbing service works, housing keeping etc. In DBRT course each student is treated as budding entrepreneur & encouraged to earn while learning skills.



Before construction



Under construction



After renovation

Energy & Environment section: In energy & environment section, students learnt installation of on-grid solar electrification system as their project activity. They worked with professional technician to install a 5 KWA solar-electrification system on hostel roof top. Students learnt basic functioning of solar PV along with wiring connection, making of earthing-pit, inverter installation etc. Students also learnt basics of house- electric wiring while doing regular electrical maintenance work like installation of ceiling fan, switch boards, MCBs etc. Total value of their community service in the month of July was Rs.17,920/- .

Agriculture & Animal husbandry section: In farming section, students built a new plant-nursery unit as their project activity. They visited a commercial nursery unit at Rajgurunagar to understand nursery business, skills requirement, unit cost of



production and sales margin etc. Students are preparing new seedlings while learning seed-treatment, seed sowing, grafting (air-layering, hard-wood cutting), making of potting mix etc. skills. They have also planted 452 capsicum seedlings in polyhouse and learnt basic animal-husbandry skills while working in dairy, goat and poultry unit.

C] Master trainer training for STEM-teacher of Jharkhand (STARS Forum)

A master trainer training program for STEM-Teachers from Jharkhand state was held at Pabal & DIY Lab (Pune) from 30th June – 5th July. Total 10 science & mathematics teachers from Kasturba Gandhi Balika Vidyalaya (KGBV) and Jharkhand Adiwasi Balika Vidyalaya (JABV) participated in this training from 6 districts. Teachers learnt various vocational training & STEM education activities like making of kitchen garden, cooking without fire, working with wood, basic electronics & programming etc. through hands-on activities. They also visited IBT schools, Jnana-Prabhodhani Schools and IISER Pune campus to explore learning-while-doing teaching methodology. Master trainers training program was part of implementation of STEM education system in 80 schools under the support UNICEF and Samagra Shiksha Abhiyaan (SSA) project.



D] Technology development updates & Design Innovation Centre (DIC):

DST-SUNIL project updates:

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

- Pranay completed 2 trials on de-fattening of BSF larvae. In the 1st trial he used Soxhlet apparatus with 1 kg of dried larvae + 4 lit Hexane (C₆H₁₂) to get 120 g of oil after 2–3 days distillation. The oil extraction process was bit slowly with 12 % oil yield. In 2nd trial, he soaked dried larvae (1 kg) in 600 ml hexane. The hexane was drained & extra pressure (100 Bar) was used with hand-press followed by Soxhlet distillation. This trial yielded 350 g (35 %) oil with much less time and hexane requirement. The de-fatted larvae will be further used for poultry or fish feed formulation.
- Mahesh processed approx. 27.10 MT of bio-waste by using Black Soldier Fly (BSF) larvae at Rajgurunagar Municipal Council (RMC). From processing 120.60 kg of larvae produced 110 g BSF eggs. He is working on Artificial UV lamps, egg laying attractant, modified breeding chamber structure (maximum sun light penetration) for improving egg laying in breeding chamber.
- Ganesh visited Kushire Budruk (Tal- Ambegaon, Dist- Pune) on 12th July to meet back-yard poultry farming beneficiaries. He collected data on weight gain, vaccination and market rate.
- On 23rd July a new egg incubator (120 egg) capacity was installed at Paoolwatt Foundation (Pasli, Tal- Velha, Dist-Pune). The Paoolwatt foundation is helping local tribal farmers to adopt backyard poultry farming as sustainable livelihood.



Polyhouse climate control & pest prediction system:

- A new polyhouse capsicum trial has started for data collection of climatic conditions Vs pest infection data. Toral 452 Capsicum seedling (variety – Syngenta –Bokken) planted on 22 sq. ft area in climate control polyhouse. Climatic data will be collected with the help of temperature-humidity data loggers, while pest infect (yellow-mite and thrips) data will be collected through IIT (Mumbai) e-Yantra lab’s mobile phone application.
- Praneet & Ganesh, visited poly house farmers at Rajgurunagar, Sangamner and Pandharpur on 4th, 5th and 15th July respectively. The visit was aimed to replaced non-working data loggers and collect baseline data on pesticide used, yield estimation from farmers.

Other research projects:

- Abhijeet & Aditya Joshi worked on repairing the Nachni (Ragi) Roaster Machine for Bhimashankar based processing unit. They redesigned & fabricated stirrer and repaired motor control unit. Team successfully conducted trial on roasting Ragi flour, peanuts etc.
- Food lab team (Aditya, Sujay & Aditya Joshi) standardized processing protocol for ‘Instant Gajar Halwa Premix’. They conducted 2 trials while processing 60 kg fresh carrots to produce 7.130 kg premix. The sensory evolution for both trials passed with average 8 (out of 9) points rating. They also designed label for their final product and conducted live-demo and test marketing on 30th July open-house exhibition.
- Seaweed extract trial @ hydroponics: Pranit and Jyosana harvested 15.815 kg fresh lettuce from seaweed extract trial system. They found 8 to 16 % higher yield in NFT and DWC hydroponics system (control Vs experiment).
- Divyanshu conducted 3 trials on wood-chip gasifier with limited success. His first 2 trials failed due to excess moisture percentage in wood-chips & excess air-flow. In third trial, at 10% moisture feeding, he got 7.42% efficiency for gasifier. He reported blockages in feeding chamber & moisture percentage in wood-chip are key challenges apart from higher wind-flow during trial period.
- In life-science lab, the team tested 2 soil samples, 1 water sample & harvested 6 kg Azolla. They also prepared 400 H₂S strip test bottles for regular community service sale.
- Ranajeet & Prasad presented a proposal on development of ‘Smart Onion Storage’ structure for small farmers at Dassault Systems (Hinjawadi, Pune) on 17th July. The proposal aims to develop 1 metric ton capacity onion storage unit & field test them with Pabal & Dhamari village farmers. We are very thankful to the Dassault Systems (La-Foundation) CSR team for sanctioning the project with financial support.
- In July month, Pranay Dumbre (M.Sc., Organic Chemistry) joined the DIC team while Vaidehi, Anusha & Anamika (IITB Living Lab interns) completed their DIC internship program.
- Juvencio Maeztu student of MIT Sloan School of Management, USA joined VA for 2 months internship on 6th July. He will be working on dryer business model project.



E] School based vocational program updates:

Learning-By-Doing (LBD) Maharashtra:

A project on implementation of vocational education (STEM) learning activities for class 6 & above started in selected schools of Pune Metropolitan Region Development Authority (PMRDA). Program will be implemented in 22 schools (12 urban + 10 rural) as per New Education Policy (NEP) guideline with the financial support of Eaton Foundation & Schaeffler India CSR. On 14th July, meeting of 6 Headmasters (HM) was conducted for preparing an activity time-line, role & responsibilities, expected outcome etc. at MSGGV School. A teacher's manual on different STEM activities will also be developed in Marathi language. Team has successfully documented 19 activities so far.



Students learning activities in Introduction to Basic Technology (IBT) program-

- Students of 8th & 9th class at Gram-Prabhodhani School (Pune) organized an 'animal health camp in school' with the help of local veterinary doctor. A health check-up and vaccination services were provided to farm animal for common rainy-season diseases like FMD, Lumpy, Sheep pox etc. Total 150 farm animals were checked in the camp. Students also visited some of farm-animal owners to provide health-checkup service while learning common disease, importance of vaccination etc. skills.
- Students' of 8th class in Ashram School Kohinde (Pune) organized Ran-Bhaji (wild vegetable) collection & cooking camp in school. Kohinde school located at Sahyadri mountain range with predominant tribal population. Students invited villagers & their parents and displayed various wild-vegetables, traditional recipes along with their nutritional & biodiversity importance.
- 9th class students from DMV Tulapur participated in the Dr. A. P. J. Abdul Kalam STEM Competition held at Rameshwaram (Tamil Nadu) on 27th July. They participated with 'Solar powered wheel-chair' project build in the IBT section. They got the opportunity to showcase their project to Dr. V Narayanam (Chairman, ISRO).
- Girl students at RTSPM Ashram Shala (Dhondegaon, Nasik) fabricated a wooden soft board for 1st STD classroom. Students learnt basic wooden work along with drilling, nail-fixing, measurement skills. Total 32 students of class 7th & 8th std. worked for 16 hrs and earned a community service of Rs.27,930/- for school.
- 8th class IBT students in Padsare (Raigad) ashram school made LDR sensor based automated light-switch for their toilet block. They learnt basic electronics, Arduino programming and soldering skills through this activity. (Stars forum)
- Mrs. Komal Raut gave presentation on 9th July to SCERT officials. We had requested permission from SCERT to implement vocational program in 50 schools as per new NCERT books on pilot basis.



Learning By Doing (LBD) (Uttar-Pradesh):

- On 9th July Dr. Zakari Adam (Head, UNICEF, Uttar-Pradesh state) visited LBD program at Basic School Malesimau (Lucknow). Visit was aimed to review LBD activities in school and its impact on overall learning outcomes in school. Dr. Adam interacted with schools' students, participated in learning activity and appreciated program outcomes.
- On 12th July Mr. Pawan Mishra (Program Manager-Education Tata Trusts, Uttar Pradesh) and Mr. Yogesh Kulkarni visited LBD program to review program activities and scope for collaboration with TATA Trust. Yogesh also met Samagra Shiksha and UNICEF officials for planning of upcoming DIET teachers training program in state.



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

ATL Andra-Pradesh, Telangana and Karnataka updates:

- ATL resource person's training: A 4-day residential training for Atal Tinkering Lab (ATL) resource person's in Andra-Pradesh state was conducted during 15th to 18th July at Vijayawada. The workshop was attended by 150 ATL teachers, 31 District Science Officers, 25 facilitators from different technical agencies. Participants learnt basic electronics, programming, use of simple AI tools along with planning of project-based learning, updating Atal Innovation Mission (AIM) dashboard etc. Training program was organized in collaboration with Samagra Shiksha Abhiyan (Andhra Pradesh) and UNICEF as a part of capacity building & strengthening of Atal Tinkering Lab (ATL) project.
- Impact assessment study: A detailed impact assessment study will be conducted for 'capacity building & strengthening of ATL lab project in Andra-Pradesh, Telangana and Karnataka state'. Vigyan Ashram is implementing this project with the support of UNICEF and state Samagra Shiksha Abhiyan since last 3 years. A 3rd party assessment agency will conduct impact study. During 2nd to 4th July, Yogesh & Kishor held meeting with state educational department, UNICEF and assessment agency M/S New Concept for discussion of impact indicators, data collection methodology, time-line etc. During 28th July to 1st August training workshop for field team, volunteers and coordinators was conducted at Hyderabad. VA field staff along with trained



Mahaa News, a leading news channel of Andra-Pradesh visited ATL lab program Zilha Parishad High School (ZPHS) Vepagunta (Dist-Vishakapatnam). Schools head-master, teachers and students exhibited various learning activities under support of SSA, UNICEF and Vigyan Ashram. A Telugu language video link -

<https://www.youtube.com/watch?v=I56>

volunteers will collect data from each ATL school for documenting impact parameters.

- Kishore presented ATL teachers training proposal to UNICEF, Telangana team and Samagra Shiksha, Telangana on 4th July 2025. Proposal aims to extend teachers training & ATL activity support to the PMSHri schools of Telangana state.
- Team conducted 6 online training sessions for ATL labs in Telangana & Karnataka state. Following are session details as-

Session Date	Topic	Session link
ATL Telangana		
02/07/2025	Build Sound Intensity measuring App using MIT App Inventor	Click here
09/07/2025	Making a Gyroscope	Click Here
30/07/2025	Maze Game by machine learning using Pictoblox	Click Here
ATL Karnataka		
11/07/2025	Circuit and Its Types	Click here
18/07/2025	Learning Fractions with LED Model	Click Here

Do-It-Yourself (DIY) Lab updates:

- At DIY Lab (Pune) students fabricated a kitchen waste compost bin from scraped water heater container, they also learn designing simple mobile calculator app with MIT app inventor and designed a digital neon LED signboard for lab. Their learning activities can be found on students' blog -

<https://lionking123456.blogspot.com/>

- 300 students from High' vision international school & college visited DIY lab Pune on 23rd July.



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

Training on 'Sliding window' fabrication: A 2 day hand-on training workshop on 'Sliding window fabrication' enterprise was conducted on 2nd & 3rd July at Pabal campus. Training was attended by 5 budding-entrepreneurs to learn skills like material selection & measurements, cutting & fixing window channels, glass cutting, window installation, cost calculation etc. Mr. Vaibhav Rahane (VA alumni & successful entrepreneur) conducted hands-on sessions while Ganesh Pingle conducted sessions on market survey, business plan preparation etc.



Field training workshop: On 17th July, Ganesh conducted on-field training workshop on entrepreneurship opportunities for 40 participants of Dhulgaon (Tal- Tasgaon, Dist- Sangli). He discussed various opportunities in animal-husbandry value chain, food processing etc.

Field visits & marketing support:

- On 30th July, thirteen alumni entrepreneurs participated in the Open-House Exhibition organized at Pabal. They showcased a wide variety of products and services. Some of the stall includes ready-mix food products, handmade soaps, imitation jewellery, millet-based items, honey, fruit plants, import-export consultancy services. The exhibition received good response. They collectively sold goods worth ₹52,030/- in a single day.
- On 16th July Ganesh, visited 'Krishnai Gruh Udyog' established by Bharati and Sudhakar Gurav. They are processing millets to make cookies, noodles. EDP is providing them support for social media promotion and packaging.
- EDP section provided FSSAI license support for 2 entrepreneurs in July.

Hero of the month:

- Mrs. Kirti Narwade started their 'Shuddham Dairy' a milk-processing and retailing business at Wagholi (Pune). She had participated in dairy processing training along with licencing, social media marketing support.
- Vijay Bhosale (a/p- Nilkaranji, Bhivghat. Tal- Khanpur, Dist- Sangli) started a panner, khowa and Ghee making business. He is dairy-processing training alumni. At present he is processing 250 lit milk/day.

G] ASMITA project updates:

In women-led tailoring (ASMITA) unit, Priyanka attended training on mass-production of T-shirts during 1st to 12th July. Training was provided by Omkar Sport Garment (Shikrapur) covering cloth cutting, stitching, use of flat lock machine, trouser stitching etc. Team (9 members) also got training on making of frock from Mrs. Ratnaprabha Dhotre (Pune). In the month July, team completed order for 500 head-caps, 86 T-Shirts, 5 kurti with hand-embroidery, 4 track pants with community service sales of Rs.16,173/-.



H] Other tit-bits:

- On 7th & 8th July, DBRT instructor team (6 members) visited Hunnar Gurukul (Saswad, Pune) and Lend-A-Hand-India (LAHI, Pune) campus to explore new skills training models.
- Ranajeet & Prasad visited Maharashtra State Faculty Development Authority (MSFDA) Pune office on 8th July. They presented different trainings conducted for college faculties in past 1.5 year along with upcoming training plan. On 21st July, Dr. Nilesh Berad (Joint-Director, MSFDA) and other team members visited Pabal campus to explore VA's work and possibilities of collaborations.
- Ganesh conducted workshop on rural entrepreneurship at School of Progressive Education and Junior College (SCOPE) at Jalihal village (Jat, Sangli) on 17th July.



- iv. A National Moth Week celebrated on 21st July at Pabal campus. Rahul Marathe and Kutan Karanik from Mitrakida Foundation (Pune) conducted session on importance of moths in biodiversity followed by moth identification session.
- v. In an unfortunate incidence 2 personal laptops were stolen from Pabal campus on 11th July night. A theft FRI is reported in Shikrapur police station.
- vi. Weather record – Rainfall of the month – 56.18 mm (Total: 235.05 mm), Max temp-31.00°C, Min Temp – 22.00°C, Humidity –89%, Water height in well– 5.50 M.
- vii. Energy consumption record- Electricity unit – III Phase- 819 units, I Phase import- 2263 units, solar export III Phase – 806 units, Solar export I Phase- 11 units, Solar generation (off-grid)-80 units, DG used – 02:45 Hrs, Biogas- 9.89 m³ (dung used-198.0 kg)
- viii. Animal Husbandry section update – Milk production – 173 Kg (Net loss Rs: 3,060/-). Poultry egg produced -210.
- ix. Online visitors: www.vigyanashram.com – 1.22K Campus tour visitors: 102.

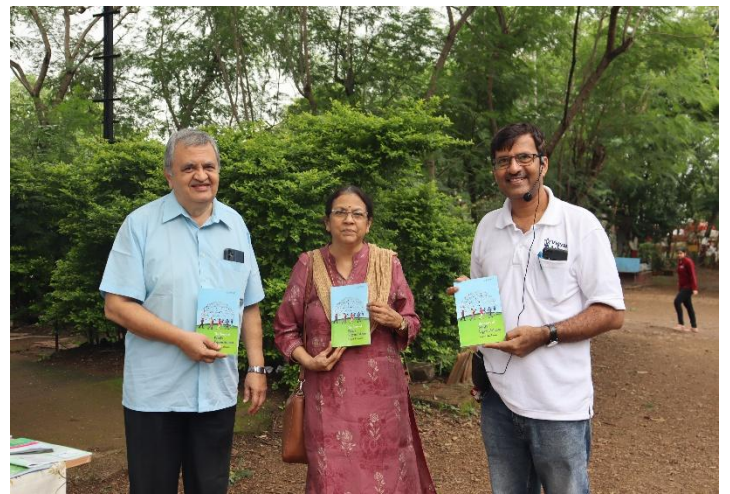
KJ Data Report: <https://shorturl.ad/WYIBt>

(Work at Vigyan Ashram is supported by: Asha for Education, Praj Foundation, EATON Foundation, SPA Education Foundation, UNICEF, TATA Technologies Pvt. Ltd, MAHLE Engineering Services Pvt. Ltd, 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:



Shuddham Dairy Entrepreneur



Dr. Yogesh with Mr. Ashok Kalbag and Rita Kalbag with English title 'A story of Pabal's Vigyan Ashram'



Glimpse of exhibition



Glimpse of exhibition



Capsicum Plantation at Poly house



High Vision International school visit at DIY Lab Pune



Sliding window training was conducted on 3rd July



MSFDA team visited Vigyan Ashram on 21st July

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www.vigyanashram.com ; <https://vigyanashram.online/>