

Vigyan Ashram Status Report

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A] Training cum workshop on Solar-dryer based enterprises at Nandurbar

Vigyan Ashram and Krushi Vigyan Kendra (KVK), Nandurbar conducted 2-days hands-on training program on 'Solar-dryer based enterprises' during 22nd & 23rd January. We are working on 'developing a solar-dome-dryer for bulk drying of red-chilli' with the support of Department of Science & Technology (DST), SEED-SUNIL program. The training was aimed to share applications of solar-dome dryer. Training was attended by 70 participants representing Women Self-Help-Group (WSHG) members, chilli cultivators from tribal area, local entrepreneurs and NGO representatives. Participants were taught dryer selection based on its need, mode of operation (solar vs hybrid), pre-treatment of raw material (blanching), calculating Loss-on-Drying (LOD), recipe flow of ready-mix food products through hands-on activities etc. Mr. Deepak Patel (Project Director ATMA), Mrs. Arti Deshmukh (Subject expert KVK), Ms. Dyaneshwari Warule (VA alumni) were resource person along with VA team.



B] Participation in Maharashtra Rural Livelihoods Summit 2026:

Vigyan Ashram & STARS forum team participated in 'Maharashtra Rural Livelihoods Summit-2026' organized by AFARM during 28-29th January at YASHADA, Pune. Vigyan Ashram's case-study on 'StartUp Sarathi: Impact &

Lesson Learnt from Vigyan Ashram's Entrepreneurship Development Program' was published in compendium of 'Status of Rural Livelihood in Maharashtra-2025' published in the summit. Dr. Yogesh Kulkarni gave presentation on the topic: Middle-High School interventions for skills and vocational education. We have also showcased our projects from Social Entrepreneurship (TAPRISE), Vocational program for schools (IBT & STEM education system) and skills training programs in the exhibition. VA partner organisation STARS forum was knowledge partner of the summit.



C] Integrated waste management @ Savardari village (VATF):

Savardari village is located at Chakan-Industrial hub, the village collects around 4000 kg/day (kitchen + plastic waste) without any proper recycling system. Vigyan Ashram has decided to implement Integrated waste management technologies like Black Soldier Fly (BSF), Plastic waste pelleting and LPG based incinerator in collaboration with Mahesh Shinde (VA alumni & founder Pratheen Eco Solution LLP).

An awareness campaign - Swachhata-walk was organized on 8th & 26th January respectively. We are thankful to Savardari Grampanchayat and Schaffler India CSR initiative for financial support of the project.



Dumping ground @ Savardari village



Partnership with Grampanchayat, Savardari

D] Participation in 'Global Krushi-Mahotsava-2026'

Vigyan Ashram team participated in 'Global Krushi- Mahotsava-2026' agriculture technology exhibition organized by Krushi Vigyan Kendra (KVK), Narayangaon during 8th to 11th January 2026. Technologies like climatic sensors & AI based pest prediction system, domestic poultry egg incubator, innovative food recipes

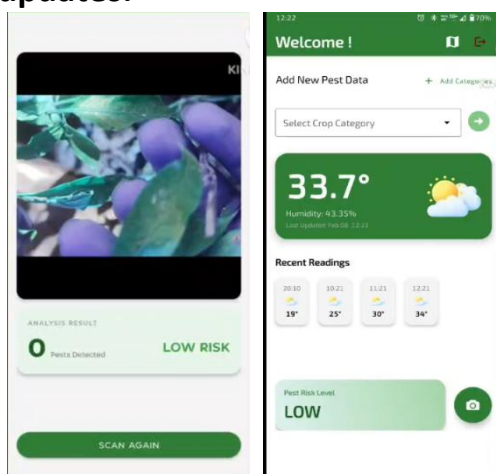
were displayed for farmers' feedback. Student alumni Ms. Rutuja Vishwasrao and Kalubai Vaandhan Centre (Junnar) participated in the exhibition while selling their products worth Rs.35,000/- in four days.



Technology development & Design Innovation Centre (DIC) updates:

Polyhouse climate control & pest prediction system:

The field-testing of mobile application developed for identification & prediction of Thrips & Mite in capsicum crop has started by VA team. The team collected 22942 photographs in the past 2 years to develop Image Recognition (IR) architecture. The system architecture consists of a *convolutional classification model* that first categorizes the sample into one of three plant organs (leaf, flower, or fruit). Then *Segment Anything Model structure* improves region-of-interest extraction and reduces background noise followed by *YOLOv11-based models* for detection and analysis of thrips & mite count estimation. The architecture is developed with the help of e-yantra (IIT, Mumbai) & it will be field-tested with polyhouse farmers.



Pest-prediction mobile application

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

- Shreyas started a climate control BSF breeding experiment. The aim of the experiment is to study the effect of light intensity and temperature-humidity on egg-production of BSF. He has fabricated a LED lamp (UV 395 and combination of blue + green light) & studied its effect in a 45 days trial.
- Mahesh processed 35.95 MT of bio-waste at Rajgurunagar with BSF to produce 455 kg pupae & 48 kg pre-pupae. He processed 30 kg pupae for oil extraction while remaining larvae was used for breeding to produce 1.325 kg eggs.
- On 22nd December 2025, 50 kg of Black Soldier Fly (BSF) dry larvae were supplied to the Agriculture Development Trust's Krushi Vigyan Kendra (KVK) Baramati for trials on cow & goat feeding.
- Mr. Ramesh Acharya (dog feed manufacturer, Mumbai) purchased 5 kg dried and 0.5 kg fresh larvae for dog-biscuits while Ms. Kshama Shroff purchased 0.2 kg larvae for tortoise feeding.

Other technology development project updates:

- Harshad installed a pilot-scale smart-onion storage unit with a capacity of 550 kg. This unit is installed at onion farmer Mr.Sandip Thorve's farm in Pabal village. He is recording optimum storage conditions like temperature, relative humidity, CO₂, and H₂S levels with an automated sensor unit developed in collaboration with e-yantra lab (IIT, Mumbai).
- On 22nd January, Abhishek & team conducted a trial on 'fogger & fan-pad efficiency calculation' in an experimental polyhouse tunnel in the presence of Mr.Nimish Prabhu khanolkar (SunSeed APV). Trials will be repeated at 70000 lux sun-light intensity for finalising optimum air-circulation intensity.
- In the Plant tissue culture laboratory, Amisha is facing contamination problem with cultured bottles for elephant-foot yam (Suran) propagation. Contamination may be due to cell damage during surface treatment using Sodium Hypochlorite solution. She is now using monochloramine-T to verify results.
- Banana plants (10 units) are shifted to the polyhouse for hardening, while Aglaonema plants (20 units) are shifted to the 2nd stage of multiplication.
- Sayali concluded hydroponics spinach dosing experiment. She found Electrical Conductivity (EC) of 2.0 to 2.1 microSiemens per centimeter (mS/cm) spinach growth was optimum with higher weight gain (Loss on Dryer 89.78 to 91.62 %). At this EC level the plant does not show any deficiency symptoms.
- Yashwant conducted a field testing of fruit-vegetable cutters for brinjal & okara crops. These are hand-held devices available in the market. He is testing it with farmers for feedback on ease of operation, increase in efficiency and scope for improvement in design.
- During January, two new interns joined DIC team Ms. Sanskruti Deokar (2nd Yr Mechatronics) and Mr. Niraj Masirkar (Biotechnology) for 1 month internship.



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

The month of January was full of celebrations & new skills learning for DBRT. On 4th January 22 DBRT students along with staff participated in 'Marathon' at Loni village. They showed their fitness in all 3 km, 5 km and 10 km running slabs. On 'Maker-Sankranti' students enjoyed 'Kite festival'. They learnt how to make kite, eco-friendly *manja* and there was friendly competition of kite flying. Students visited agriculture exhibition (KVK Nayangaon) and Morde Foods factory as field visits.



Following are other highlights of DBRT -

Agriculture section: In the Agriculture & Animal Husbandry section, students learned calving assistance while witnessing a new female calf birth in the dairy unit. They also installed a new milking machine in the dairy. Students also worked in the nursery unit to produce fodder-cactus plants and understood pest-management of fodder-maize and capsicum crop in the polyhouse. They harvested 17 kg capsicum to supply the kitchen.

Home & Health section: Students of home & health section, processed 30 kg carrots for making of ready-to-cook pre-mix *halwa*, laddo for 'maker-sankranti' and chocolates. Students also tested an Artificial Intelligence (AI) based cooking appliance (Uplaince AI) for its application. Students sold various processed food products at the Agriculture Exhibition (Narayangaon). Total value of community service in January was Rs.21,950/-.

Beauty & wellness students underwent training of making imitation jewellery (on 6-7th January) and practiced make-up skills, haircut, face massage, facial etc.

Engineering section: In the engineering workshop, a team of 5 students manufactured 10 units of poultry-cages and hand-tools storage cupboard. Students also completed painting work for two DIC hostel rooms and applied primer in 6 rooms of new hostel. Students learnt basics of masonry & brick laying skills while completing construction of foundation for new-girls toilet block (225 sq ft). Value of community service for the January month was Rs. 1,31,096/- including labour charges of Rs. 24,261/-.

Energy & Environment section: In E & E section, students practiced their skills while completing electrification work of 3 new rooms in the guest-hostel building. Students spent Rs. 37,948/- on material & earned Rs. 4,400/- as labour charges of work. As a field-project, students worked in Pabal village for house-electrification work, fixed tube-lights, tissue-culture laboratory, plant rack and refrigerator (home-appliance) repair. Total value of their community service was Rs. 59,238/- including Rs. 11,840/-.



New member to VA family: female Calf



Computer section: In computer section, students enrolled themselves for an online-skills training module on <https://www.skillindiadigital.gov.in> portal. In the month of January, 36 students completed an online course on solar PV installation, basic electrical, basic food-processing and farming sector.

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

Training workshop: A two-day training on 'Fabrication & Installation of sliding window' was conducted at Pabal campus on 17-18th January. The training was attended by 5 students from Pune, Nanded and Latur district. Our

alumni entrepreneur Vaibhav conducted hands-on training sessions on selection of material, measurement, cutting, fabrication and windows installation. As a practical, trainees fabricated two windows for new-guest hostel.

Exhibition & marketing linkages:

- Technical support to Vaan-Dhan centre: On 1st January, a technical consultation was conducted with Dr. Kuldeep Ramteke (Principle) & Professors of Samarath College of Pharmacy (Belha, Ahilyanagar) for developing herbal toothpaste, pain relief ointment and capsules. Farmers have submitted different herbal powders to college for further processing & trials.
- On 22nd January, Ganesh and Ranajeet met Mr. Ramesh Surung, from Khadi and Village Industries Commission (KVIC), Pune to discuss collaborations in skills training & hand-holding support.



Support to Vaan Dhan Kendra

G] Make-a-Thon for ITI students:

The 2nd Make-a-Thon workshop for Industrial Training Institute (ITI) students was conducted at Pabal during 12th to 16th January. Make-a-thon was focussed on 'advanced metal fabrication skills' including welding, plasma cutting, wood-router and CNC turning machines. Training was attended by 29 students from Bosco Private Industrial Training Institute, Chinchwad, Pune. Students fabricated a cooking-desk, storage shelf and cloth hanging stand while learning preparing BOM, CAD design, metal-fabrication, powder-coating skills. We are very thankful to the SPA educational foundation for providing financial support for the make-a-thon.



H] School based vocational program updates:

IBT –

- Shreyas and Harshad are guiding H.A school and Wahangaon school for developing their Technovation project concepts. Harshad conducted online meetings to design an adjustable table using a pop-pin mechanism with the instructor and students of H.A. School, Pune. He is also guiding bamboo cutting project at a school in Wahangaon.
- Pratik Vidya Niketan, Nigade, Adarsh Prashala Nagaj, Chatrapati Shivaji mmadhyamik Vldyalay, Shivali and Baburav Genuji Pingale , Gulani schools conducted Kaushal Mela in the month of January. The mela provided a platform for students to showcase their skills through various activities.



Pratik Vidya Niketan school Koushal mela



Students of Malganga school Nighoj prepared Tilgul for makar sankranti



Sharad with AFCONS team



Students learned Drone Technology at Pawar school, Dimbhe

- Sharad attended orientation of AFCONS staff at Mumbai on 20th Jan 26. Sharad demonstrated four projects to AFCONS staff. The staff will mentor “Chote Scientist” competition, at Ashramshala school Padsare. These projects are vermicomposting, hydroponics, plastic bottle reuse, and a solar cooker. 25 staff members attended the demo that includes Ms. Tania Misri, Ms. Sheetal Arora, and Ms. Zareen.
- An educational event was held in Dimbhe and Nighoj school to introduce students to the drone technology on Makar Sankranti. The program featured live flight demonstrations that showed students how drones operate and their various real-world uses. A mix of tradition and technology inspired students to explore their career.

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

Four Teachers training programs, were conducted at SIRD, Lucknow this month. Each training was for 3 days with an average of around 78 participants per batch. Due to winter break in UP schools, VA team came to Pabal from 3rd to 10th Jan to practise new skills and planning for future training.



STEM training program for Tribal Ashram School, WB

STEM Learning

STEM training program for teachers at Tribal Ashram schools, West Bengal state was conducted at Berhampore from 8th January to 10th Jan 2026. Total thirty-six teachers participated in the training program. UP trainer Harshit travelled to West Bengal as a Master trainer for the training. Teachers learned low-cost hands-on activities like tangram, balancing toy, paper circuits, hydroponics, DIY rocket launcher, seed treatment, DC torch, etc. These STEM activities will help teachers to explain STEM concepts to students.

I] FAB lab & DIY lab update:

Fab Academy course started on 21st January 2026 at Vigyan Ashram Fab Lab with two academy students- Arti Bhosale and Ashish Shende. Mr. Kishore Gaikwad is local instructor for the course.

Students attended two boot camps by Fab Academy.



DIY Lab updates:

15 students and their teachers from Modita organisation visited Pabal campus on 18th Jan. They underwent Penate and Moringa Chikki making, and costing training.

At Pune Lab, following activities were carried out during January month.

- i. Repair café- Fixing the broken appliances at home
<https://youtube.com/shorts/tnRh9VIJmuw?feature=share>
- ii. Building single stage water rocket with launch pad
<https://youtube.com/shorts/DTUtucCoZ0A?feature=share>
- iii. Designing and building paper circuit for full-wave bridge rectifier.
<https://youtu.be/Cgw8KHxQYh0>
- iv. Learning Cricut- CNC cutting machine (like a vinyl cutting machine)
<https://youtu.be/dxt55A-uPec>
- v. Learning Block Coding- Makar Sankranti Special Project
<https://youtu.be/5DFdgEBsdbU>

J] ASMITA project:

Asmita team completed 300 canvas bags order for AFARM. AFARM used these bags for their state level summit conducted during 28th and 29th Jan. Asmita team manufactured 38 trousers, 3 kitchen aprons and 8 chemistry aprons for Texol India.

K] Other titbits:

- i. The 77th republic-day was celebrated at Pabal campus with enthusiasm! After flag-hosting, students & staff teams participated in the cultural programs including group dance, drama and individual performances. On 25th January, students did Shramdaan. They worked for cleaning & repairing water drainage of hand-tubewell near Maal-tale area. Students also constructed round tree-bench, cloth-washing ramps for nearby communities.
- ii. Under TAPRISE project: Technical & marketing support was provided for scaling-up of Solar dryer (Mitraniketan, Tamil-Nadu), LPG based Sanitary Pad Incinerator (Vigyan Ashram, Maharashtra) and Turmeric boiler (Gorakhpur Environmental Action Group, Uttarpradesh)



- iii. Shreyas and Arun Dixit visited Krushi Vidnyan Kendra (KVK), Baramati on 22nd January to explore new technologies in agricultural exhibition.
- iv. Dr. Yogesh gave keynote speech at Seventh National Montessori Conference – SAPARYA, held at Hotel Sahara Star, Mumbai, on 23rd and 24th January.
- v. Kishore visited Atal Innovation Mission at Niti Aayog's office at New Delhi on 21st and 22nd January 2026 as one of the national jury member for evaluating the top 10 projects developed by students across the country as a part of the Viksit Bharat Build-a-thon and state-wise top 5 projects. Dr.Yogesh travelled to Bangalore on 11th and 12th Jan to attend PSSCIVE-NCERT meeting for G11 text book development.
- vi. Weather record – Rainfall of the month – 00 mm (Total: 793.87 mm), Max temp-30.00° C, Min Temp – 9.00° C, Humidity –56 %, Water height in well– 4.10 m, Waste-water COD- Boys hostel- 268 ppm (slightly higher), Girls hostel- 168 ppm (within limit)
- vii. Energy consumption record- Electricity unit – III Phase- 2238 units, I Phase import- 301 units, solar export III Phase – 1245 units, Solar export I Phase- 420 units, Solar generation (off-grid)-107 units, DG used – 01:25 Hrs, Biogas- 42 m3 (840 kg dung used) .
- viii. Animal Husbandry section update – Milk production –486 Kg (Profit Rs:4860/-), Goat farm – 2 new goat kids added in stock (average weight of kid -99.16 gm/day).
- ix. Online visitors: www.vigyanashram.com –2549 (Organic-1480, Other-1069), Pabal campus visitors: 413.

JJ Data Report: <https://shorturl.at/D3qsh>

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Photo Gallery:



Republic day celebration at Pabal



Students and Employees enjoyed dance on Republic Day



Activities at KGBV Ormanjhi & Angara, Ranchi



DBRT students enjoying Kite festival at Pabal campus



Soil testing activity at teacher training @ Lucknow



Students doing shramdan on 25th January



Dr. Yogesh at SAPARYA conference



Participation in KVK agro exhibition

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