

# Vigyan Ashram Status Report

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### A] Livelihood-centric technologies exhibition at Lucknow:

Vigyan Ashram and Development Alternatives has organised state-level event on “Livelihood-Centric Technologies for Promotion of Women-Led Entrepreneurship in Uttar Pradesh” on 18 December 2025 at Indira Gandhi Pratishthan, Lucknow. This was done as part of TAP-RISE project for promoting scalable technologies through UPSRLM (UP State Rural Livelihood Mission). More than 20 livelihood-centric technologies related to energy, food processing, water, waste management, and agriculture were showcased in the exhibition and was attended by 200+ participants, including women entrepreneurs, CLF leaders, technology developers, and government officials.

The event was graced by Smt. Deepa Ranjan, IAS, Mission Director, UPSRLM, and Shri. Janmejy Shukla, Joint Mission Director, UPSRLM. The program also included a technology exhibition, experience-sharing by women entrepreneurs, and a roundtable discussion to support future pilots and scale-up under TAP-RISE.



### B] Make-a-thon for ITI students

A 5-days residential make-a-thon training program for Industrial Training Institute (ITI) students was conducted at Pabal campus during 15<sup>th</sup> to 19<sup>th</sup> December. Students learnt advanced metal fabrication skills like MIG-welding, powder-coating, Sheet metal bending, CNC turning operations. Students fabricated a movable-kitchen table, foldable poultry-cage and safety-door for the new-hostel building through a design-thinking process. Total 22 students from Shri Vighnagar Trust's Late Nivruttisheth Sherkar (Junnar) college participated in training. We are very thankful to the SPA foundation for providing financial support for this training program.



### C] 2<sup>nd</sup> Price to Black Soldier Fly (BSF) waste management project

VA incubated and supported Pratheen Eco Solutions LLP won 2<sup>nd</sup> prize for his "BSF-based bio-waste recycling" social entrepreneurship model at the "Circular Bioeconomy Innovation Challenge" on December 5. Event was organized by BAIF Developmental Research Institute. It was organised to promote innovative circular economy ideas. The award will offer us exposure to global experts and evolving technologies. The prize includes ₹25,000 and expert guidance (VATF).



### D] Dome Dryer's drying efficiency finds better in research trails.

Harshad tested the solar dome dryer for its efficiency during 19<sup>th</sup> December to 3<sup>rd</sup> January. He conducted 2 trials (7 days each) with full load (200 kg) loading while recording daily Loss on Drying (LOD) in the top, middle and bottom layer trays. The average water removal rate of 17.23 kg/day was recorded during the first 4 days of drying with a drying efficiency of 21.55 % (conventional tunnel dryer efficiency is ~ 15%). During these 4 days, 70 % moisture was removed during drying making it market ready. Drying quality (color & flavour retention) was much better than open-sun drying. Trials were very satisfactory with positive feedback from traders and farmers.



The drying results were also shared with Krushi Vigyan Kendra (KVK) Nandurbar. The dryer was shifted from Mogli village (Akkalkuwa block) to KVK Nandurbar premises for further trials and training of farmers.

### E] STARS Forum Annual Conference:

STARS Forum conducted its 16<sup>th</sup> annual conference on 'Circular Bio economy' from 8<sup>th</sup> to 12<sup>th</sup> December. It was an Online conference with average 65 participants every day. Eminent speakers were Dr. Prasad Modak, Dr. Ganesh Kamat, Ravindra Karnad, Manisha Shet, Dr. Mansi Tripathi etc. On 10<sup>th</sup> December, Mahesh and Dr. Manik Bichakar presented a case study on civic waste processing using BSF technology at Rajgurunagar. The conference was organised in partnership with IWMI and BAIF. Dr. Yogesh Kulkarni and Mr. Ranajeet Shanbhag participated in the conference from Vigyan Ashram (STARS Forum).

## F] Faculty Development Program:

The Faculty Development Program (FDP) was conducted from 8<sup>th</sup> to 12<sup>th</sup> December at Gharda Institute of Technology (GIT, Chiplun). Training was organized in collaboration with Maharashtra State Faculty Development Authority (MSFDA). Total 23 faculties from 8 disciplines from GIT participated in the training to learn application of 'design-thinking' methodology in higher education. Dr. Arun Dixit, Mr Prasad Patil and Mr Ranajeet Shanbag conducted sessions. Hands-on activities and field visits were conducted to train participants steps of design-thinking like documenting empathy, problem identification, designing solution, Quality Function Design (QFD) etc (VATF).



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

### DST-SUNIL project updates:

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

- Shreyash, designed a prototype (8 ft<sup>2</sup>) of controlled climate Black Soldier Fly (BSF) adult fly chamber. A prototype will help in studying behaviour of adult flies in different temperatures, humidity and light intensity. The study experiment is designed to work on increasing 'breeding efficiency' of flies. Shreyash will conduct experiments on climatic parameters Vs egg production to identify appropriate rearing & breeding parameters.
- In the month of December, the team converted approximately 35.55 metric tons (MT) of wet waste by using Black Soldier Fly (BSF) larvae at Rajgurunagar. It yielded 436 kg of pupae and 28.9 kg of pre-pupae used mainly for breeding (1303 grams of BSF eggs) and drying for poultry feed production.

#### Solar Dryer for red chili:

- Prasad, Indrasing and Abhijit installed 'Solar Dome Dryer' for red-chilli drying at chilli-drying yard (Pathari) Nandurbar during 3<sup>rd</sup> to 6<sup>th</sup> December. The dryer was shifted from Mogli village (Akkalkuwa block) to Nandurbar with on-set of the red-chilli drying season. A solar dome dryer of 200 kg loading capacity is installed at Rajesh Kadam (Annapurna Traders) and Raghunath Marathe (local chilli farmer).



### Polyhouse climate control & pest prediction system:

- On 6<sup>th</sup> December, a field demonstration & training session was conducted for 10 selected polyhouse farmers from Pabal, Mukhai and Rajgurunagar village at Pavana Flower Growers Association (Sai Roses, Pavananagar, Pune). The training was aimed to demonstrate advanced greenhouse technologies (fertigation, climate control system and pest management) established by this Farmers Producer Company (FPC). Farmers exchanged their ideas, technology benefits and challenges in polyhouse farming during the visit. We also installed an 'automated temperature & humidity' data logger with FPC for data collection & feedback.
- In December month, a total 7435 photos of capsicum pests (Thrips) were captured by team for Image Recognition (IR) based pest prediction system. The team also builds a mobile application with climatic data & Artificial Intelligence (AI) based pest prediction system with help of e-yantra (IIT Mumbai) team. The app is under the lab testing phase, and it will be shared with close group farmers for feedback.

### Other technology development project updates:

- Harshad completed CAD drawings for a 500 kg smart-onion storage unit. It will be cylinder shape (4ft height \* 4.59 ft diameter) weldmesh-based structure with exhaust fan and sensors for proper air-circulation.
- Abhijit completed installation of vibrating motor, heaters and temperature data logger in Vibro-Thermal-Disinfection (VTD) unit developed for drying of BSF larvae. He conducted a dummy trial and working on modifications for a live trial.
- Harshal along with E-Yantra (IIT, Mumbai), Innovation Premier League students participated in KISAN AGRI Expo – 2026 during 10<sup>th</sup> -14<sup>th</sup> December. He demonstrated the first prototype of the 'onion smart storage' unit developed with the financial support of 'La-Foundation' (Dassault Systems). He got good response from farmers with the primary suggestion of increasing storage capacity up to 10 tons.



Dome dryer installation @ KVK, Nandurbar



Onion dryer demo @Kisan Exhibition

### **HJ Diploma in Basic Rural Technology (DBRT) course updates:**

During December month, DBRT students were busy in section specific learning and project activities. On 10<sup>th</sup> December, students visited KISAN AGRI-EXPO 2025 to explore farming technologies. Following are some of the key learning activities as-

Workshop section: Students in the workshop section completed fabrication of hostel-beds (20 units with total cost of Rs. 38,650/-) and IBT school lab furniture set (2 sets of 4 tables with cost of Rs.49,745/-) while learning metal fabrication & powder-coating skills. Students also learnt wall-painting and metal painting skills through

undertaking work at the DIC boys' hostel and maintenance of bio-gas tank. Total value of community service of the section was Rs.1,28,315/-.



**Energy & Environment section:** In electrical section, students learnt repair & servicing of water pump, mixture grinder and egg-incubator machine. They also worked with local entrepreneurs in Pabal & Moshi village as field assignment work. During the field assignment, group of 5 students completed wiring work for 5 housing blocks & a shop in Pabal village. Total value of their community service work for December was Rs. 35,070/-.

**Agriculture section:** In the farming section, students cultivated beetroot and chickpea crops in 3 gutha plot. Students learnt practical skills in soil preparation, biological seed treatment (Rhizobium), and sowing methods through this activity. Students also harvested 36 kg capsicum while learning pest management & fertigation in a polyhouse. In goat farming, students recorded weight gain for goat kids. They found an average weight gain of 96 gm/day for male goats and 75 gm/kg in female goats was achieved during the past 3 months. The growth rate is very satisfactory for stall feeding goat farming enterprises.

**Home & Health section:** In this section students learned operations of solar & electrical dryers while drying 108 kg moringa leaves and 94 kg of forest herbs for WSHG and Vaandhaan group members. Students learnt calculation of Loss of Drying (LOD), moisture % along with packaging of dried powders. Students also manufactured Instant halwa-mix (3.4 kg), Instant wheat-khir mix (2.436 kg), Instant beetroot halwa-mix (3.250 kg), Modak pre-mix (1.60 kg), Amal Candy (10 kg) and Amla Pickle (2 kg) for regular sale. Total community sale value of H & H section for December was Rs.17,590/-.



Capsicum harvest from polyhouse

**Beauty-wellness & computer section:** In beauty & wellness classes girl students practiced threading (eyebrows), hair dressing, hydra-facial, facial-massage, bleach, pedicure skills. In the computer section, students used AI tools like Gamma, Napkin & Notebook-LM for writing their blogs and designing posters.

**I] Entrepreneurship Development Program (EDP) update (VATF):**

**Training workshop on ‘plumbing services’:** A 2-day hands-on training on skills and entrepreneurship opportunities in ‘plumbing services’ was conducted at Pabal campus on 6<sup>th</sup> – 7<sup>th</sup> December. Training was attended by 5 trainees to learn skills in house-plumbing including preparing a drawing for fresh & drainage water pipelines, types of pipes & fittings, fixing PVC pipes (concealed & regular), bathroom & WC fittings, installation of flush tank etc. Trainees worked in new-hostel building premises for learning practical skills along with local entrepreneurs.



**Poultry Farming Training**

**Poultry farming training:** Ranajeet & Ganesh conducted an on-field training for 25 Women Self-Help Group members at Guhroli, Singapur and Pargaon village on 26<sup>th</sup> December. The training was organized in collaboration with AFARM (Pune) for on-field technical & enterprise development support.

**Exhibition & marketing linkages:** EDP team participated in EHSAAAS-Mela organized by S P Jain Institute of Management & Research (SPJMR) on 12 – 13<sup>th</sup> December at Andheri, Mumbai. VA team participated with innovative products of its entrepreneur alumni & Vaan-Dhan group. Entrepreneurs sold their products of Rs. 29000.00 during the 2 days exhibition.

**Hero of the month:**

Mr. Ghanshyam Thorave from Pabal village started his Desi-bird poultry farm. He is a student of poultry farming training program (August 2025 batch). He has invested Rs.10,000/- for birds & small poultry-shed and expects monthly income of Rs.6,000/- from new-enterprise.



**J] School based vocational program updates:**

**IBT –**

- Students of Gavadewadi School fabricated a prototype of groundnut cutter, weeder, drip line winder as students project. Abhijit Pisal visited school on 23<sup>rd</sup> Dec and discuss technical support to improve their prototypes.
- Dr. Kulkarni, Mr. Saurabh from the *EmpowHER* organization, visited Shivkar school on 4<sup>th</sup> Dec. During the visit, detailed review of IBT-related activities was conducted. Mr. Saurabh and Dr. Kulkarni interacted with the students. School finalized a project plan and decided to organize a Kaushal Mela on 28<sup>th</sup> February at the school.



**Meeting @ Shivkar school**

- 8 grade students from Indiraji Madhyamik Vidyalaya, Moi, successfully fabricated five new restroom doors for their school. Value of community service of the project was Rs. 2,080/-. (STARS Forum)
- Priyanka, Gajanan, Pranit, and Archana visited schools in Savali block of Vadodara Gujarat on 22<sup>nd</sup> and 23<sup>rd</sup> Dec. It was mentoring visit for 5 school starting vocational education from Grade 6.
- The jewellery making workshop was conducted on 18<sup>th</sup> & 19<sup>th</sup> Dec for 11 instructors. The training focused on making pearl flower jewellery, traditional jewellery such as bangles, earrings, rings, Kolhapuri saaj, Mangalsutra and chokers. Instructors learned basic design techniques, material selection, and the use of tools. The workshop will be useful for students doing projects on Jewellery making.



**Fabrication work @ Moi IBT school**

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

Vigyan Ashram is conducting teacher's training program in Uttar Pradesh. In this month, total 764 teachers participated in the batches of approximately 100 participants. Each batch underwent a three-day training program. In Dec, Teachers from 19 districts of Uttar Pradesh participated in the training.

**Jharkhand:** Team @ Jharkhand completed first draft of activity book and under review.

Jay and Tina travelled to Pabal from 29<sup>th</sup> Dec – 10<sup>th</sup> Jan for training during winter holidays (Stars).

Mr.Arjan De Waqt, Deputy Representative, UNICEF India Country Office visited KGBV Kara (Khunti) school on 11<sup>th</sup> Dec.

**West Bengal:** Team is working on correction of Bengali STEM manual. They are visiting schools and demonstrating teachers STEM activities. Online meeting with teachers was conducted on 22<sup>nd</sup> December (STARS Forum). Team also demonstrated the STEM kit to Principal Secretary Mr. Binod Kumar at Bikas Bhavan, Kolkata on 10<sup>th</sup> December.

In this month, total 764 teachers



### **K] Atal Tinkering Lab (ATL) & DIY lab update:**

Vigyan Ashram conducted a State-level ATL workshop for the KREIS (Karnataka Residential Educational Institutions Society) teachers during 17<sup>th</sup> and 18<sup>th</sup> December at Collins Aerospace, Bengaluru. Kishore with Manoj and Krishna conducted the training. A total of 30 ATL teachers, 4 state officials from KREIS and 10 volunteers from Collins Aerospace attended the training.

The topics covered during the workshop were- Design Thinking, Basic Electronics, 3 D designing, ATL curriculum integration, Training need analysis and ATL operation management.

### DIY Lab updates:

At Pune Lab, following activities were carried out during December:

- Making Geoboard and Clinometer (working on the trigonometric ratios) to celebrate the National Math Day on 22<sup>nd</sup> December. <https://youtu.be/oGVChc6dBvA>
- Making gyroscope using waste material: <https://youtu.be/Q7Bqpc9kIYg>
- Building Squishy Circuits using conductive and insulating dough made of maida: <https://youtu.be/lZciwOTwi2Y>
- Learning Electronics (Ohm's Law) through- theory, simulation and hands-on activities: <https://youtu.be/TqH0buP7ddU>
- 2D Designing using Inkscape: <https://youtu.be/wlGdmcSkdlw>



At Vigyan Ashram, 1-day hands-on training workshop was organized on 'tinkering activities' for 58 high school students associated with Yojak Organization on 19<sup>th</sup> Dec.



### L] Other titbits:

- Ranajeet participated in Pannal discussion of 'Circular Bio-economy stakeholder workshop' to discuss Vigyan Ashram's approach in 'Empowering youth innovation' at BAIF (Pune) on 5<sup>th</sup> December.
- Ganesh presented work of Vigyan Ashram in 'Technology based rural entrepreneurship' at Gramayan NGO meet (Pune) at S. M. Joshi Hall on 27<sup>th</sup> December.
- Dr Yogesh visited Lucknow to participate in LDB training from 16<sup>th</sup> – 17<sup>th</sup> Dec and TAP RISE event on 18<sup>th</sup> Dec.
- Ranajeet and Mr. Ashok Kalbag attended 'Mini-Grids and the Main Grid: Co-creating the Future of Rural Electrification' discussion at IIT Bombay on 30<sup>th</sup> Dec.
- Asmita (Apparels and Stitching unit) Record: Sale Rs.38,260/- (Head cap – 510, Pant – 13, T-Shirt -8, Apron- 30); Training om stitching pants for 7 women from 24<sup>th</sup> -27<sup>th</sup> Dec.
- Weather record – Rainfall of the month – 00 mm (Total: 793.87 mm), Max temp-30.00° C, Min Temp – 8.00° C, Humidity –47 %, Water height in well– 4.00 m, Waste-water COD- Boys hostel- 140 ppm, Girls hostel- 272 ppm (slightly high)
- Energy consumption record- Electricity unit – III Phase- 554 units, I Phase import- 386 units, solar export III Phase – 1432 units, Solar export I Phase- 692 units, Solar generation (off-grid)-96 units, DG used – 07:15 Hrs, Biogas- 33 m<sup>3</sup> (662 kg dung used)
- Animal Husbandry section update – Milk production –359 Kg (Profit Rs: 3,025/-), Goat farm – 2 new goad kid added in stock, Poultry egg incubation (110 eggs) failed due to heavy power cut.

ix. Online visitors: [www.vigyanashram.com](http://www.vigyanashram.com) –2404 (Organic-1309, Other-1095), Pabal campus visitors: 218.

**MJ Data Report:** <https://url-shortener.me/E2LH>

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**Photo Gallery:**



DBRT students enjoying Volleyball at Pabal campus



Koushal mela at Ahilyadevi Highschool, Pune



Beet root Halwa making activity



Students in KGBV in Jharkhand enjoying STEM activities



Working in Agri field in school in Murshidabad (West Bengal)



Jewellery making workshop for instructors



Mr. Arjan De Waqt, Deputy Representative, UNICEF India Country Office visiting KGBV Kara, Jharkhand



VA-SF team reviewing projects in schools in Gujarat

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