

Vigyan Ashram Status Report

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- 56 New Enterprises are supported by Vigyan Ashram in last 1 year !

A] Annual Internal Review of Vigyan Ashram's program

Annual meeting of Vigyan Ashram team members was held on 16th and 17th April at Pabal. Mr.Chaitanya Nadkarni (leadership development trainer) facilitated the discussion as an external resource person. Discussion was attended by 32 staff members. We have discussed important achievements, best practices along with the need for improvements.

We have also reviewed our projects in line with the Vigyan Ashram's vision & mission statement. The day-to-day administrative issues, HR policies, project times-line were also discussed & decisions were made for new educational calendar.

A department wise action plan is made for coming academic year.



B] Air cooler fabrication training @ Amaravati

A five days hand-on training on fabrication & assembly of air coolers was conducted at 'Prashnachinha (प्रश्नचिन्ह) Adiwasi Ashram Shala' Mangrul Chahvala (Tal- Nandgaon, Dist- Amravati) from 4th April. Prashnachinha is a grassroots organization working for underprivileged tribal & nomadic students in Vidarbha region. We have conducted training of 8 students in fabrication & assembly of coolers at their ashramshala. During 5 days of training students made 23 units of air-coolers. Student learn cooler assembly, electrical fitting, repair-servicing etc during training. They sold these units to local Govt administration.



C] 'Seed the Future' Entrepreneur competition:

Vigyan Ashram has mentored 17 schools (IBT and ATL) for the 'Made in 3 D- Seed the Future Entrepreneur' competition. This is a national competition conducted by Dassault Systems (La-fondation) & Atal Innovative Mission (AIM, Govt of India). There were 150 projects from all over India selected for the competition. Out of which 36 were selected for semi-finals and 7 of them were mentored by VA. Team 'Aavishkar' of schools DN Natekar Vidyalaya (Chikhali, Pune) further made into 12 finalists with their project of 'Sugar-Cane Harvester'.



Project for Seed the future from ZHPS Pennamuluru school,

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

During the last 12 months, 16 technology-based skill training programs benefiting 177 participants were conducted by EDP dept. Through these programs 56 new rural enterprises were started in different part of Maharashtra. A project review meeting was conducted on 2nd April in presence of Mrs. Bhagyashri Adkar & Mr. Mandar Phophale of Praj Foundation. Project activities, outcomes etc were discussed during the meeting and decisions were made for 2024-25 financial year.

Following are some of the highlighted activities of April month as –

- Bakery training: Reshma Halwadar (food-lab Instructor) conducted four days on-field mentoring on bakery enterprise for three girl alumni of Vigyan Ashram from 30th April to 3rd May. Pragati Pratishthan, Jawhar is setting up community bakery unit at Jahwar. Three DBRT girl students will manage this bakery unit. Reshma guided them on bakery-oven operation, recipe mix for bread, khari, toast making during this training.
- EDP section participated in 'Udan-2024' exhibition @ Nashik on 12th April. Our entrepreneur Mrs. Pushpalata Mahajan (Hanshita Millets & Shoppy) exhibited various millet-based products to build marketing network.
- Video documentation of HERO entrepreneurs: On 19th April, a video making team from PRAJ Foundation carried out video shooting of 5 successful entrepreneurs: Kuldeep Chavan (Liquid Organic Manure), Yogesh Mansukh (Goat farming), Pravin Tahware (Tea Shopee), Akshay Khalkar (Electrician) and Vikas Kite (Welding fabrication) to document their success story. The video films will be used to promote EDP program.
- Ganesh, Ranajeet and Laxman visited Welding-fabrication enterprise of Gaurav Salunkhe (Pachegaon, Shirampur, Ahmednagar). Gaurav is DBRT alumni & successfully running his enterprise from past 5 years.
- Enterprise registration support provided to 9 entrepreneurs (Udyam Certificate-6, Shop Act-2, FSSAI-1)



E] Keshav Smruti Pratishthan Award -2024: (VATF)

A Keshav Smruti Pratishthan & Janata Sahkari Bank, Jalgaon felicitated Vigyan Ashram with Dr. Acharya Avinashi Puraskar for 'Skill & Entrepreneurship development work' among rural youth. The award was given at the hands of Shri.Ashok Jain (Chairman, Jain Irrigation System Ltd.) on 13th April at Jalgaon. Dr.Yogesh Kulkarni, Ganesh Pingle, Bhushan Rothe and Himanshu Dongre accepted the award on behalf of Vigyan Ashram.

Team also visited various projects run by Keshav Smruti Pratishthan. They also had visited our alumni in Jalgaon and IBT schools @ Khiroda/Pal/Lohara near Jalgaon.



F] Technology development & Desing Innovation Centre (DIC) updates:

DST-SUNIL project updates :

i) Red-Chilly dryer: Abhijit & Prasad completed trial on energy efficiency of 0.785 m² solar-dome dryer.

They found with 35 % exposure to sun, dryer can harvest 191296 kilojoules energy. Trial on saturated saw-dust showed that this energy can be used for removing 4 kg water/day. Based on trial results, team is working on designing 12.56 m² solar dome dryer with 200kg chilli loading and 64 kg/day water removal rate.



Semi Automatic BSF Larvae Separator

ii) Black-Soldier-Fly (BSF) based composting & poultry farming:

- Heat-wave impact: A heavy heat-wave negatively impacted Black-Soldier-Fly (BSF) egg production at Pabal campus. Data collected on impact of high temperature & lower humidity showed that BSF pupa stopped hatching & mating reduced above 35 °C temperature (optimum humidity of 70%). We have installed water fogging system with solar PV based power backup, green-shed net & straw-thatching on tin roof in breeding chamber to maintain temperature and humidity. But the waste processing at Rajgurunagar & other sites were completely stopped due to lack of eggs & 5 DOL production.
- BSF dried larvae protein analysis: On April 16, 2024, two samples of Black Soldier Fly larvae, one oven dried and one sun-dried, were provided to the BAIF for analysis. The analysis included testing for protein, fiber, fat, and other parameters. The primary focus of the analysis was on crude protein content. The sun-dried sample of Black Soldier Fly larvae contained 28.52% crude protein, while the oven-dried sample contained 30.36% crude protein.

- Ganesh & Ranajeet conducted, three field training for backyard poultry farmers in Velha & Ambegaon region of Pune district. On 3rd & 4th April, Ganesh conducted marketing survey and also carried out vaccination for Coccidiosis (protozoa) disease in Sakhar & Pasli villages of Velha. They also conducted induction training for 19 new participating farmers at Sakhar village on 30th April.

iii) Polyhouse climate control system development:

Work of upgradation of existing climate control polyhouse is under progress. Plumbing work of fan-pad system and fogger system installation is complete. The plumbing & shed-fabrication work for semi-automated fertigation unit is also completed.

iv) **Fab-academy & DIC student project updates:**

- Fab-students completed 'make-a-machine' learning assignment. They build a prototype of 'seed-crafter a seed sowing machine' & presented in global class on 10th April. Its details can be found on: <https://rb.gv/3d7n9j>
- A mid-term evaluation on input device, moulding casting, Networking communication was completed for fab-academy students.
- Anjani started experimentation on standardization of soyabean trypsin inhibition for her roasted soyabean project. She tried combinations of soaking, germination, hull removal and roasting for reducing anti-nutritional (trypsin) properties while improving taste acceptability.
- In plant tissue culture laboratory, Vedika conducted experimentation on neem, lilly flowers, canna India. She successfully achieved shoot-initiation but failed in subculturing. We are consulting subject matter expert for overcoming contamination in sub-culturing.



Make a Machine project : Seed Crafter

v) **Make-a-thon for Science Under-Graduate girls:**

A fifth Make-a-thon for under graduate girls' students from science discipline was conducted from 2nd – 6th April. It was attended by 10 girl students from Tikaram Jagannath Art, Science, Commerce college, Khadaki (Pune). Girls learned digital fabrication while making projects using 'Design Thinking' methodology. They made three projects on education toys, agriculture and food processing theme. This program was supported by La-Fondation (Dassault Systems) and so far 90 girl students in Pune district benefited from Make-a-thon.



G] DBRT skills training update:

DBRT students started last phase of their course with two month's summer internships. Students will work with enterprise of their choice for two months. They are placed with our alumni doing metal fabrication, electrical services, food processing, dairy farming etc enterprises. Following are some of the highlight of April :

Energy & Environment: 10 DBRT students opted for internship in electrical businesses. They are placed in solar PV installation, home appliance repair service, electrical wiring & retailing enterprises. Students in E & E section installed exhaust fan in the kitchen. They also repaired a flour-grinder, installed a power-backup inverter and new fertigation unit in polyhouse. Total value of their community work was Rs.12415/- during April month.

Home & Health section: Students in Home & Health section prepared 6 kg spices & ready-mix viz. onion-garlic masala, sambar masala, pav-bhaji masala etc while learning drying technology. They made Pooran ready-mix (5.6 kg), bread (27.5 kg flour), Tamarind sauce (9 kg). Students earned a community service of Rs. 19465.00.

Workshop section: In the engineering section students disassembled old spot-welding machine and repaired it. Students opened the machine to paint (powder-coat), insulate its transformer with varnish and fixed electrical connections. They also fabricated 12 seating-stools from scraped MS bars and carried out welding, powder coating, wood cutting & sunmica fixing operations. Cost of one unit of stool Rs.870.00.

Agriculture & Animal husbandry section: DBRT students Malhar, Tanmay, Omkar and Prasad completed installation of fogger system in polyhouse. They installed 92 foggers along with 1.5 Hp water pump. Students also completed plumbing work for evaporative pad along with drainage line and 4000 lit water storage tanks. They will test fogger and fan-pad cooling system for its effectiveness in coming days. Total cost community service work was Rs.53670.00. Students earned labour charge of Rs.2500.00



H] Introduction to Basic Technology (IBT) program updates:

April is the month of annual examination and year-ending activities. Following are some of the activities under IBT dept.

Summer camp activities: 7 IBT schools in Pune district and 1 school in Nasik conducted summer camp for students from non-IBT schools. Students learned to make projects using card-board, clay, wall colours etc and prepared seed-ball for plantation, food items. Camp benefited more than 100 students.

Activity manual for STEM learning: IBT team has undertaken assignment for developing STEM learning activities for Grade 6 – 10th for United way India (New-Delhi). The activities are based on National Curriculum Framework-2023 (NCF) vocational education framework. In this month IBT team has designed 30 activities for STEM & 10 activities on electronics, Artificial Intelligence (AI), renewable energy, software coding etc for 9th & 10th standard students.

Science teacher training @ Waghere (Nasik): A 3-days training on 3D printing & basic electronics-based activities was conducted at Waghere Ashram-shala during 1st to 3rd April. Training was attended by 11 teachers from near-by schools to learn 3D printing.



Summer camp activities

MAHLE Engineering team visit: CSR officials from MAHLE Engineering Services India Pvt Ltd visited Dhamari and Katraj IBT school on 18th April. Visit was aimed to review IBT program activities, impact and need for financial support. Team appreciated school administration efforts in IBT implementation and confirmed financial assistance under CSR support.

Student learning activity:

- Students of Gram Prabodhini Vidyalaya, Salumbre harvested 310 kg of wheat from their farming plot. Students planted 12 kg wheat seeds in the month of February. Students did soil preparation, sowing, watering, weeding, harvesting etc. Total cost of cultivation was Rs.5830.00 while total income was Rs. 10850.00 for 310 kg yield.

								
Water plantation	Removing wheat weed	Weed management						
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Wheat cultivation	Wheat cultivation	Wheat Harvest						

- 9th class students of Home & Health section at Shivali school prepared dried ginger powder. They produced 100 gm powder from 500 gm fresh ginger through sun drying. Students prepared 10 gm packets for selling with proper costing & labelling of product.

Learning-By-Doing (LBD) @ Uttar-Pradesh (STARS Forum):

- Unicef has given one month extension to 'Learning by Doing' program. Regular learning activities were carried out in 45 school. In the last week of April, all labs were handed over to School Principals.
- Sharad attended meeting with Samagra Shiksha department for tools-delivery and teachers training for 1772 schools on 8th April.



Electronics activity @ Composite School Shivpur, UP

- Online training was conducted for all District Education Officers (DEO), Block Education Officers (BEO) and schools' teachers of 75 districts of UP on 12th April. Mr.Madhav Tiwari and Mr. Ranjit Singh (Samagra Shiksha Abhiyaan, UP) and Dr.Yogesh Kulkarni guided participants on implementation of LBD program in 1772 schools.

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

- Low cost Maker Spaces (LCM) deployment: We have successfully completed the deployment of materials and installation of laboratories in 10 schools of Karnataka. With this we have established 20 LCM labs in Karnataka.



- **Visit to Vijayawada for documentation of ATL work by UNICEF India and TCS visit (18th – 20th April) :**

Ms.Pramila Manohar, Ms. Deepti Madhura from UNICEF (New Delhi) and TATA Consultancy Services (TCS) CSR initiative team visited ATL hub school cum training center at ZPHS Penamaluru (Vijayawada). Unicef team carried out documentation of the program. We have



demonstrated students' projects to them. Visitors also took feedback from school administration and Govt officials. Ms.Shikha Rana (Education officer, UNICEF), Mr. Madhusudhan Sheshagiri (Education Specialist, UNICEF) along with Kishor Gaikwad and AP-ATL team interacted with visitors.

- Field staff training & reviews: Six ATL field staff from Andhra-Pradesh, Telangana and Karnataka attended 7 days training at Pabal & DIY lab (Pune) from 22nd to 29th April. They learnt designing new learning activities, appropriate application of digital fabrication tools. They also carried our mapping of State school curriculum with ATL activities. This will help us in effective implementation of ATL program.

Do-It-Yourself (DIY) lab update:

- DIY lab conducted five workshops for membership students. Students learn DIY skills & application of science while making ballon-car, musical instrument, personalized cooler, tetrahedron dryer etc.
- Tejaswini & Akshay fabricated a dessert cooler from scraped 3D printer cabinet. This desert cooler will be used at Director's office at Pabal.

J] DST-TAP RISE project update:

A project review meeting of Technology Acceleration Platform for Rural Innovations & Social Enterprise (TAP-RISE) was conducted from 25th to 27th April at Pabal & JPNC (Pune). Meeting was attended by project team of Development Alternative (New-Delhi) and Vigyan Ashram. Team discussed project implementation strategy, candidate technologies and their support requirement. Total 8 candidate technologies have been shortlisted for further assessment & scaling-up support.

K] Other tit-bits:

- i. Diploma in Basic Rural Technology (DBRT) course admission process has started for 2024-25 batch. An online webinar was conducted on 21st & 29th April. It was attended by 115 parents & students.
- ii. Wikipedia team participated Wikipedia She-leads (https://meta.wikimedia.org/wiki/CIS-2K/Events/She_Leads) program. VA Wiki-team is doing video documentation of traditional women led skills which are getting extinct like hand-grinding, winnowing, broom making, hand pounding.
- iii. Akshay, Priyanka and Shweta visited USHA SILAI Schools at Midgulwadi (Tal-Shirur) on 30th April to know more on infrastructure facility, training, marketing support required by from local WSHG members.
- iv. Sarika and DBRT girls participated in the 3 days residential camp organised by 'Niramaya' Pune from 26th – 28th April. It was personality development workshop for adolescent girls.
- v. Weather record – Rainfall of the month – 5.30 mm (Total: 484.02 mm), Max temp-40.00° C, Min Temp – 21.00° C, Humidity –58%, Water height in well– 2.60 M.
- vi. Energy consumption record- Electricity unit – III Phase-485 units, I Phase import- ?? units, Solar generation-135+ units. DG used – 6:50 Hrs, Biogas- 48.87 m³ (dung used 977 kg)
- vii. Animal Husbandry section update – Milk production – 462.00 Kg (Gross loss Rs: -1686.00). Poultry- 110 egg produced.
- viii. Online visitors: www.dsttara.org – 1111(Organic search-818, Direct search-293), www.vigyanashram.com – 1742 (Organic search- 935, Direct search- 807). Campus tour visitors –163.



Documenting traditional skills which are getting extinct for Wikipedia

K] Data Report: <https://shorturl.at/RMzaT>

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Photo Gallery:



DBRT girls attending camp at Niramaya, Pune



Tissue culture result of Neem



Poultry training at Sakar village



Visit to Usha Silai School Midgulwadi (Shirur)



TAP-RISE team of DA and VA @ Vigyan Ashram



DIY Lab : Making Automata Toy

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