

Vigyan Ashram Status Report

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In this issue

- Technovation-2023: IBT school Science & Technology Exhibition
- Inauguration of ATL training lab @ Penamaluru (Andra-Pradesh)
- Training of ATL Teacher's from Telangana at Vigyan Ashram
- Vigyan Ashram team's Wikipedia edits crosses 19000+ landmark

A] Technovation-2023: Science & Technology Project Exhibition by IBT schools

'Technovation'- IBT student's science & technology project exhibition was organised on 16th February at LIT-Mindtree campus (Pune). This is the 4th year of the exhibition. Technovation aims at providing platform to showcase community problem based innovative science project. In this exhibition 50 innovative project were showcased by 36 IBT school from 7 districts of Maharashtra.

The exhibition were inaugurated in the presence of Dr.Anand Rao (Head of department CTARA, IIT Bombay) , Mr.Prateek Deshmukh (Innovation Lead, AIM, NITI Aayog) , Mr.B.R.Shimple (DVETO, Pune Region, Mr. Sunil Agarwal (LTIMindtree), Ms.Swarupa Gurav (LTIMindtree), Mr.Shrikhande (LTIMindtree) and Dr.Yogesh Kulkarni. Best project award was won by students of Adarsh Vidyalaya, Amboli for 'Smart Scare Crow' project. 1st & 2nd runner up awards were won by students of Anandrao Patil Prashala (Belewadi) and Rajapur Highschool (Rajapur) 'Low-Cost Trade-Mill' and 'Betel nut Cutter' respectively. Students of Hirkani Vidyalaya (Gawadewadi) got an inspirational project award for their 'Sharpening Device' project.



B] Inauguration state level ATL hub & training center at Penamaluru

A state Atal Tinkering Labs (ATL) hub & training centre is inaugurated at Penamaluru Zilla Parishad School (Krisha district, Andra-Pradesh) on 1st of February. Lab is established by Vigyan Ashram with the support of Unicef & Samagra-Shiksha Abhiyan (SSA). Lab will act as a training facility for 150 labs in the state. Facility is formally inaugurated at the hands of Shri. S Suresh Kumar (Commissioner of School Education & SSA) and Smt. Tahera Sultana (District Educational Office). Kishor Gaikwad, Afroz Shaikh and Purshotum were present from Vigyan Ashram for inauguration ceremony.



C] Telangana state ATL teachers training workshop

i) A three days training for ATL teachers was conducted at Pabal & DIY lab during 20th to 22nd February. Total 33 teachers participated in the hands-on training. Training includes basics of electronics, micro-controller-based project, 3D printing, laser cutting, CAD designing. Participants made rechargeable Li-ion LED torch, water-flow controller alarm, traffic light control etc projects. Video link for their learning available on <https://youtu.be/M0XWZoTcz94> and

<https://youtu.be/EmYl0cO7sAc>
ii) Mrs.Pramila Manoharan (Education Program Specialist) & Sheshagiri Madhusudhan (Education Specialist) from UNICEF India visited Pabal on 23rd February. Objective of the visit was to understand VA's pedagogy of education. They also visited IBT school at Dhamari to understand IBT program and its linkages with curriculum.



D] Design Innovation Centre (DIC) project updates

Bio-Diesel from BSF :

BSF has around 40 to 45 % fat on dry weight basis. This can be utilized as bio-fuel or animal source oil.



Akshada is using transesterification & fractional distillation process. During 1st trial we received 140 ml raw bio-fuel (without fractional distillation) from 200 ml BSF bio-extract. (VATF)



Agro waste composting : Sonal conducted 15 field demonstration for composting of agri-waste at Wadgaon-pir village. She also prepared 40 lit of agro-waste composting culture in the lab.

Black Solider Fly (BSF) rearing : Mahesh found difficulties in BSF rearing at Pabal campus due to unknow infection (disease) to BSF larvae. It's found that larvae died due unutilized feed in rearing drums. Mahesh also tried rotating basket based rearing with limited success. The trial at Muk-badhir Ashram Shala with hanging baskets has shown good results. Kitchen waste processed without any off-smell & good larval growth (harvesting 6.240kg). Photo : BSF in basket @ Muk badhir ashramshala. More details @

<https://vadic.vigyanashram.blog/2023/02/08/black-soldier-fly-3/> (VATF)



- Micro biology lab prepared 124 bottles of H₂S water testing kits for IBT school in Uttar-Pradesh. They also tested 8 soil samples. (VATF)
- LPG Incinerator @ Naphate foundation: Sumedh and Rushabh visited to rectify issues in LPG based Sanitary incinerator. There was a complaint regarding the electronic control and leakage in the LPG gas piping. The control of the gas flow was fixed by rewiring the servo motor that regulates the flow. There was a leakage in the gasket causing fire and melting the metal around it. The whole system was opened up inspected and a test run was carried out. The recurring problem is due to overheating of the system and we need to modify burner position. (VATF)
- Sumit is working on fabrication of 'curd maker' for Narmadalaya (Madhya-Pradesh) hostel. It's an insulated box with 35 lit SS pot fixed with emulsion heater (1500 watt) & PID controller. Total material cost of the unit is Rs.5500.00
- Arthur Schramm completed 2-month internship. He worked on comparison of temperature- humidity sensor, image processing by using convolution neural network and BMI measurement device. Details of his project can be found on – <https://vadic.vigyanashram.blog/author/Arthur-schramm/>
- Four new research fellows joined DIC program from N K Orchid College of Engineering & Technology (Solapur). They will be working on solar drying, efficiency of cooking stove and modification of incinerator project.
- Fab-Academy 2023: During February students learnt & practiced skills in CAD modelling, Laser cutting, embedded programming and principle & practices of project management.



Incinerator flame

E] DBRT student learning updates (VATF):

- **GMRT- Science-Day exhibition:** DBRT students participated at Giant Metro-wave Radio Telescope (GMRT) centre, Khodad on 28th Feb & 1st March. They had exhibited innovative projects viz. UV-water filter, waste-composter, water-tank flow controller, Ammonia detector for toilet etc project.
- **Energy & Environment section:** Students completed electrical wiring work of new food processing unit. Students planned their work while learning Critical Path Method (CPM), material purchase, quotation and costing etc. Total cost of work was Rs.17227/- with Rs.2750 as labor charges. DBRT Students had installed CCTV console in new agriculture section, installed water pump at VATF hostel and learn lead-acid battery maintenance.
- **Home & Health section:** Students processed 56 kg bread flour in bakery. They also prepared Moringa & Linseed chikki (6kg), Tomato Sauce (3 kg) and Tamarind Sauce (5 kg). Students also learnt application of solar dryer while preparing Amla candy (10.8 kg), Instant Pooran (6.1 kg), Dried Onion (0.65 kg) & Dried



GMRT Exhibition

Methi (0.56 kg). Students also put up a food-stall at 'Pabal Yatra' on 4th Feb. Total community service sale for the month was Rs.15635/-.



DBRT students doing electric work



DBRT students working @ food lab

- **Workshop section:** DBRT students did PCC of 24 Ft² open porch & brick laying work while constructing kitchen table. Students also fixed 4 doors in new agriculture & food processing unit. Students started construction of 426 Ft² porch shed for food-processing unit. Team of five DBRT students completed painting of agriculture classroom.
- **Agriculture & Animal husbandry:** Students harvested 26 kg cabbage, 1 kg brinjal, 0.5 kg chilly and 7 kg spinach (hydroponics) from vegetable plots. In Animal husbandry section they made 746kg silage from green maize. Students recorded average weight gain of 134 gm/day for newly born goat kids. This is very good growth rate as per industry standard reflecting students hard work & learning.



DBRT students busy with Engineering activities



DBRT students prepared silage

- One day introductory workshop was conducted on 25th Feb for 17 students from Kachara Kagad Pachayat' (Pune). DBRT students acted as resource person and taught participants about basics of soil analysis, 3D printing, embroidery, poultry feeding etc.

F] Fab-Lab for tribal area's (DST support):

- Fab-lab at Narmadalaya organised a science project exhibition on the occasion of Science Day. They exhibited 40+ different science projects. Shri. Agrim Kumar (Sub Divisional Revenue Officer Kasarawad), Shri. Hemant Wedanekar (District Education Officer) inaugurated the exhibition on 25th February. It was visited by 400+ students & teachers from nearby schools.

- Palghar fablab organised science exhibition on 28th Feb and displayed 74 projects from Fablab. It was visited by 530 students from nearby villages.
- Narmadalaya fab-lab conducted 3 day's training on basics of 'digital fabrication' for Jawaharlal Nehru Private ITI (Kahrgoan) from 8th Feb to 10th Feb. Training was attended 18 students.
- Fablab Palghar conducted a 4 days' training workshop for Vikramgad ITI students during 6th to 10th Feb and 20th & 21st Feb. Total 75 students participated in this training to learn 3 D printing, laser cutting and basic electronics skills.



Exhibition @ Narmadalaya



Exhibition @ Palghar



ITI training @ Fab lab Palghar

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

- **Chikki & Khakra business training:** Two business aspirants one each from Pune & Ahmadnagar underwent two days training and mentoring session on 25th & 26th February at 'Ashirwad Gruh Udyog (Dhayari, Pune). VA entrepreneur alumni Mr.Pramod Pansare shared Chikki & Khakara making recipes, industrial processing, labelling, marketing details with participants. Ganesh & Sachine guided participants in business-plan preparation, fund-raising, FSSAI licensing etc aspects.
- **@ EHSAA S Mela ,Mumbai :** EDP team participated at EHSAA S mela hosted by SPJMIR, Andheri (Mumbai). It was an exhibition of small & medium social enterprises under Development of Corporate Citizen (DoCC) initiative of SPJMIR institute. VA alumni Kalyani Chavali & Pramod Pansare exhibited their product & sold products worth Rs.20000/-.
- Mrs.Bhagyashri Adkar (Assistant Manager, Praj Industries) visited three entrepreneur supported under EDP on 6th February. Objective of the visit is to understand progress of the EDP program and challenges.
- Yogesh onkar visited 4 EDP entrepreneurs from Vidharbha region during 20th to 28th February. He travelled in Yavatmal, Wardha, Nagpur and Amravati districts to meet entrepreneurs & also met local grassroot social organizations for understanding training needs.



Khakara Training



Visit of Praj official to workshop of Vikas Kite

- Ganesh & Vishal visited 8 EDP trainees in Pune district to guide them in their respected enterprises. We also provided enterprise registration support for Udyam & FSSAI licence (1), Pan card (1)
- Dr.Yogesh Kulkarni visited Saharudaya foods on 7th Feb

Hero of the month:

Mr.Prajwal Karnewar started a goat farming & trading enterprise “Radhai Agro group” At-Chipadi Tal-Kuhi Dist.-Nagpur. Prajwal is goat-farming EDP trainee (September 2021 batch) & presently getting technical mentoring support. He has invested Rs.2.6 lacs in his business.



HJ IBT updates:

IBT in Maharashtra (Stars):

i) STRAS Forum’s Trustees Dr.Sudhir Prabhu, Mr. Chaitanya Nadkarni, Dr.Yogesh Kulkarni and Mrs.Bhakti Talwalkar visited IBT school @ Shri Ram Vidyalaya, Navlakh Umabre on 9th February. Schaeffler's CSR Executive Gaurav also joined for the visit.



Visit to Navlakh Umabre

ii) Student of 9th standard @ Pandit Jawaharlal Nehru Madyamik Vidyalay, Nirgudsar

constructed a plant nursery unit in a school campus. Students learnt basic skills of engineering drawing, material selection & procurement, metal fabrication etc while constructing nursery on 300 sq. ft. (15ft X 20 ft) area. Students worked in a team for 12 days (2 Hr/day) & spent Rs.23000.00 for nursery construction. They use it for nurturing forest trees, vegetable farming etc under IBT program. Here is video link for their learning & work link: https://youtu.be/Qc_a-B3gwG8

iii) Students of engineering section of Benapur-Sultangade school, fabricated a soil plough-cum-seed drill in engineering section.

iv) Students of Sumati Balavan (Katraj, Pune) IBT school printed a window-glass cleaner on School. It costed them Rs.450. Similarly, students of Aasde & Navlakh-Umbre (Pune) IBT school students practiced use of 3 D printer while making key-chains & imitation jewellery using tinkercad & fracktal designing software.

v) LTI Mindtree CSR internal audit team visited three IBT schools on 15th Feb.

IBT Uttar-Pradesh updates (Stars):

i) Yogesh visited IBT schools in Varanasi on 20th Feb and in Lucknow on 21st Feb. He also met Unicef officials in lucknow on 21st Feb to discuss future plan for the project.

ii) We have given Hindi translation correction work of ‘Learning by doing’ book to Samarth Graphics in Pune.

I] DIY, Pune & ATLS Updates:

- Saturday membership students, are now divided into two different groups as in Level-1 (11am-1pm) and Level-2 (3-5pm).

Level-1 batch : We had conducted activities like making car using waste plastic bottles, old CDs, learning fuel efficiency of using different methods like conventional chulha vs rocket chulha etc.

Level-2 batch: Activities conducted were use of electronics components and building circuits using paper circuits, Tinkercad and breadboard.

- For both level1 and 2 students, we had conducted outdoor activities like- properly utilize waste plastic bottles made fence around plant, natural water filter using plastic bottles and sand, rocks, charcoal, cotton etc. Made a bird water feeder and a toy using plastic bottle.
- As a part of training support to ATLS in Karnataka & Andra-Pradesh state 6 online-sessions were conducted in February. Details are 1) Let's make our own "Water level Indicator" <https://www.youtube.com/watch?v=4nZpLWmmaNc> ii) Build your automatic streetlight- <https://www.youtube.com/watch?v=C1GpByA9xN4> iii) Smart curtain using Arduino- <https://www.youtube.com/watch?v=IL4xLWf83eo>
- Karnataka online sessions are : i) Solar Lamp using basic electronic components- <https://youtu.be/0UuACZZtb4A> ii) Canva-Online Software to make poster and flyer- <https://youtu.be/QBvXm62oLqQ> iii) Molding and casting using 3D printed designs- <https://youtu.be/f6JdWwZKCuo>
- **AP Hub ATLS HM Orientation cum training :** One day orientation cum training for AP Hub ATL school's HMs was organized on 2nd Feb 2023 at State ATL training center. 31 Hub schools' HMs participated in the orientation program. Sessions on ATLS compliance like ATL dashboard, query raising, PFMS, GEM, etc. along with sessions on possibilities of 3D printing, CAD, electronics were conducted.



HM orientation @ Vijaywada

J] Wikipedia updates:

- Wikipedia team at Vigyan Ashram achieved a new benchmark with completion of 19000+ edits during March 2023.
- Komal Shambhudas, Prinyanka Jadhav & Pooja Jadhav are selected for Wiki-Conference India 2023. It will be held in Hydrabad.
- (https://meta.wikimedia.org/wiki/WikiConference_India_2023).
- Three new books are uploaded on Wiki-Souce Marathi library (<https://mr.wikisource.org/wiki>) : [शेतकरी संघटना:विचार आणि कार्यपद्धती](#), [शेतकऱ्यांचा राजा शिवाजी आणि इतर लेख](#) & [अंगारमळा](#)
- Wiki-team completed scanning of marathi book (डॉ.ग.वा. तगारे गौरव ग्रंथ) comprising 297 pages. Team also completed proof-reading for 3 books & OCR uploading for 7 books with total of 329 pages & 982 pages respectively.

Global edit counts (approximate):

▶ mr.wikisource.org:	14,885
mr.wikipedia.org:	2,412
commons.wikimedia.org:	755
mr.wikibooks.org:	606
en.wikisource.org:	208
en.wikipedia.org:	90
meta.wikimedia.org:	39
www.wikidata.org:	7
pa.wikisource.org:	6
af.wikipedia.org:	0
Other projects:	0
All projects:	19,008

K] Other tit-bits:

- Annual project review meet for Distance Learning Library (DLL) project was held at Pabal on 6th February. Meeting was attended by project team & Dr.Sudhir Prabhu. It is decided to add soft-skills related topic in distance learning library project while improving quality of present video-series.
- Sachin Puneekar participated in the 'National Consultation meeting on Implementation of Vocationalisation of Education' in Schools under Samagra Shiksha scheduled on 27th & 28th February at PSSCIVE, Bhopal.
- Yogesh gave introduction to Vigyan Ashram's program to Unicef India representative Ms Cynthia on 27th Feb in an online interaction.
- Purnesh and Vishal participated in national workshop on industry-institute linkages organised by C.T Bora college, shirur on 9th and 10th Feb.
- Suvarna Wadekar resigned from her post as DIC-coordinator to pursue carrier in her family business. We wish her best luck for future endeavours. Tejswani Chaudhari joined team as DIY-Lab (Pune) instructor.
- Bhakti and Karishma attended 'Seva Tarang' a state-level conference of NGO on 11th & 12th February. They attended session on various statutory compliances for social organizations.
- Weather record – Rainfall of the month – 0 mm (Total: 935.77 mm), Max temp-35.00° C, Min Temp – 15.00° C, Humidity – 34%, Water height in well– 5.00 M.
- Energy consumption record- Electricity unit – III Phase -645 unit, I Phase import-261, Solar generation- 1571.00. DG used – 03.00 Hrs.
- Animal Husbandry section update – Milk production –950 Kg, Poultry (200 birds sold)- FCR-2.20 (loss Rs.6634.00) Goat – 6 kid average weight gain 134.16 gm/day



Annual review of Distance Library project

- x. Biogas produced-39.0 M³ (Dung used- 780.0 Kg)
- xi. Online visitors: www.dsttara.org – 824 (New visitor-734, Repeated-90), www.vigyanashram.com – 1146 (New visitor-956 Repeated-190). Campus tour visitors – 316.

KJ Data Report: https://docs.google.com/spreadsheets/d/1jXXjJoYjVTDaIDW71g-2_Ny2ew5HRtWp/edit?usp=sharing&oid=101141840668207826730&rtpof=true&sd=true

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Photo Gallery:



Yogesh @ Saharudaya foods (DIC alumni Kalyani)



Yogesh visited school program @ Lucknow



IBT students explaining project to Mr. Sheshgiri (Unicef)



Workshop for students of KKPP



VATF hostel building status



Gayatri harvested spinach two times (3kg + 4kg = 7kg) in Feb.

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