

Vigyan Ashram Status Report

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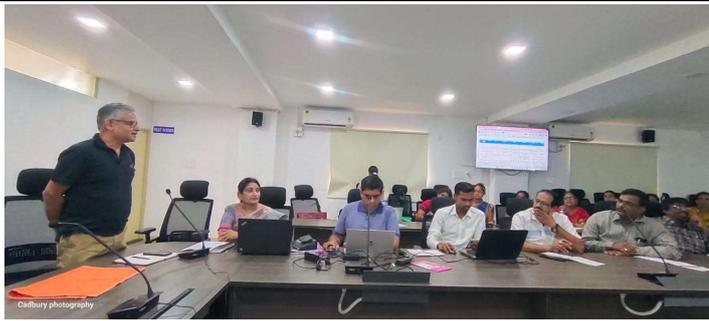
September 2023

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A] Atal Tinkering Lab (ATL) teacher training @ Vijaywada :

Vigyan Ashram is technical partner of Unicef for 'Strengthening of Atal tinkering Labs'. There are 31 ATL hub schools (one in each district) in Andhra Pradesh. A one day training program for ATL nodal teachers was conducted on 20th September at Vijaywada. Objective of the training was to introduce effective management practices in ATLs as per Atal Innovation Mission (AIM) guidelines. Participants were introduced with 13 quality parameters defined by AIM, their relevance with ATL functioning and online dashboard management. Participants also learnt effective use of DIKSHA learning platform and discussed various administrative issues at school level. Mr. Sheshagiri Madhusudhan (Educational specialist, UNICEF), Dr. G.R. Bhagasri (ATL nodal officer, SCERT), Shri. B. Vijaya Bhaskar (Joint Director, SAMO) and Shri. B. Pratap Reddy (Director- SCERT) were present as a chief guest of program.



B] Solar dome dryer installation for WSHG :

We have completed design and fabrication of Solar dryer against order from women Self help group (WSHG) M/S Maa Annapurna Enterprises (At. Post Ozar, Nasik). DIC students has specially designed the dryer for fragrance herbs, spices and heat sensitive vegetables with 25 kg loading capacity (13 feet diameter dome). Solar dome dryer unit was installed on site on 12th & 13th September. WSHG conducted trial on Mint, Tulsi, Moringa leaves in the last week of September with satisfactory results. DIC students Mahesh and Rahul worked on the project under guidance of Mr Prasad Patil. (VATF).



C] Marathi Wikipedia updates:

Mrs. Priyanka Chaudhari is working as a sanitation staff in Dairy unit of Vigyan Ashram. After her daily routine of cleaning cow shed and workshop, she is working in computer center. She is working on scanning and uploading of books on Wikipedia library. She is also participating in editing wiki articles. Priyanka was selected for 'Train the Training (TTT) program' organized by Centre for Internet and Society (CIS-A2K) during 29th September to 1st October at Kochi (Kerala). TTT aimed to groom leadership skills among the Indian Wikimedia community members. She was a part of 26 wiki-editors selected from all over the country based on their contribution in Wikipedia publications. Priyanka met different organizations & individuals working in Indian language, learnt new skills in wiki-editing and presented her work in Vigyan Ashram. Her newly learnt skills will be useful for us to train new girls on Wikipedia activities. This is a long journey for Priyanka and inspiration to other girls. Watch video of her wiki journey on :

<https://fb.watch/odAVrQJQ52/?mibextid=2Ck5i9>

More details on training can be found on - https://meta.wikimedia.org/wiki/CIS-A2K/Events/Train_the_Trainer_Program/2023



Priyanka Choudhari

D] DBRT student learning updates :

September was a festival season. DBRT students celebrated Ganesha Festival & Dahi-Handi with enthusiasm. They played *barchi* dance with *dhol* & *Tasha* during Ganesh procession.

DBRT sessions are progressing well. Students have completed their first section and now shifted to new sections. Students also completed their elective course in basic carpentry, electronics, lemon processing and goat farming skills. Following are some of the highlights of their activities -

i) **Energy & Environment section:** Students installed new DOL starter & 5 HP pump in the well. They had carried out servicing of diesel generator while changing its engine oil, air-flilters etc and installed bio-gas tank. Students visited Pune electronics market on 11th September to study market & purchase spares required for mini-inverter (150 watt) and battery charger (30-volt AC-DC converter). Students assembled the inverter parts and sold it to shop owner for Rs.1600.00 (assembly cost 1430/-).



Students made DC inverter and sold it to customer

ii) **Engineering section:**

Wood working : Students got order for 20 beds for new hostel. Students designed a bed using pinewood & MS frame structure. They learnt wood cutting, drilling polishing & painting skills through this activity. In this month, students completed work for 2 beds with manufacturing cost of Rs.6572.00 per bed.

Fabrication: Students also started fabrication 13 units (100 ft length) of window louvers for classroom building and lighting pole for workshop section.

Masonry work: While learning basics of masonry skills students constructed seating bench of 129 M³ dimension in new-hostel building.



Wooden cot fabricated by DBRT students

iii) Home & Health section: Students processed 20 kg lemons for making squash (21.250 lit), pickle (5 kg), lemon peel powder (100 gm), marmalade (1 kg). Student also sold these products in Pabal village while learning label design, packing. Students also processed 56 kg bread-flour and sold food products worth Rs. 13000/- in September.

iv) Agriculture & Animal husbandry section: Farming activities have been picked up with 243 mm rain in September. Students planted 200 plants of capsicum in polyhouse. The earlier crop got damaged due weedicide toxicity. Student's wrongly sprayed insecticide without properly washing weedicide used spray-pump. The learning from this mistake have been discussed with students & documented by instructor. Students visited progressive goat farmers & polyhouse farmers in the area to learn from their experiences. They harvested methi (15 bundles), bottle gourd (42 kg).



Students preparing lemon squash



Artificial insemination of cow



Deworming of cow

v) Team of 6 students learnt advanced DTP skills in 15 days elective course. They prepared visiting cards, posters, by using Canva & Corel Draw software, video editing, 3D designing (123 CAD) and basic programming software (scratch) during the course. (VATF)

E] Design Innovation Centre (DIC) & technology development update:

i) **Black-Soldier-Fly (BSF) based composting:** BSF based composting field trial at Rajgurunagar Nagar-Panchayat dumping ground scaled up to 100 kg per day processing. During September, total 2.799 ton wet-waste was processed at 4 locations including trial at Mr.Ganesh Ghayதாக (poultry farmer, Ranjangaon).

Mahesh Shinde is planning to launch his Startup on BSF. Proposal is submitted to MIT College, Technology Business Incubator (TBI). Mahesh & Dr.Arun Dixit gave presentation about their business to TBI-MIT College (Kothrud, Pune) on 1st Sept.

ii) **Polyhouse climate control system:** Suhas, Nikita and team of DBRT students installed fogger system in Polyhouse. The foggers will work in synchronization with fan-pad and automated climate control system. DBRT students are recording effect of desire climatic condition (29 to 31 °C & minimum 60% RH) on pest infestation on newly planted Capsicum crop along with growth parameter, water uses etc. Realtime climate conditions in polyhouse can be viewed on <https://thingspeak.com/channels/1093286>

iii) **Chelated micro-nutrients:** Akshada conducted trial on replacing Ethylene-diamine-tetraacetic (EDTA) compound for chelation of Boron (B) micronutrient. Instead of EDTA she used leaf extract of *Gliricidia* (*Gliricidia sepium*), Subabul (*Leucaena leucocephala*) and Mahua (*Madhuca longifolia*) de-oiled cake. She got best results for *Gliricidia* leaves. She is working on testing its applicability on field trial with Cabbage crop.

iv) Ashwini & Avanti (tissue culture expert) conducted trial on Moringa (*Moringa oleifera*) shoot-culture in tissue culture laboratory. They prepared 100 plants of moringa using MS media, but trial failed due to infection. They are working on improving lab conditions for avoiding infection.

v) Rushikesh Devmore (B.Tech Agri. Student) completed his 1 month internship project. He worked documenting need of 'Jamun harvester' with Pabal farmers.



BSF baskets



Boron Chelation

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

i) **Training on 'Millet Processing':** A 2 days training on opportunities in millet processing was conducted on 16th & 17th September. Training was conducted in collaboration with millet processing enterprise M/S Agro Zee organic Pvt Ltd (Urali-Kanchan, Pune). Training was attended by 16 potential entrepreneurs. Students learnt making of millet flex, cookies, crackers, health-bar, ready-mixes etc. Mr. Mahesh Londhe (Director-Agro Zee Organics PVT.LTD), Mr. Bhashkar Gavhane (Agronomist Organic farming) and VA team members Mr. Yogesh Onkar and Mr. Kiran Inamdar were the resource person.



Training on millet processing

ii) **Honey-bee farming:** A 10 days training workshop on honey-bee farming was started from 25th September. The training is co-hosted by EDP department in collaboration with Rural Self Employment Training Institute (RSETi, Pune) and Bank of Baroda. Total 26 farmer participated in the training.

iii) Webinar @ FPO formation: A webinar on Farmers Producer Organization (FPO) formation was conducted on 23rd September. Mr. Amitkumar Nafade (CEO- Krushi Vikas Santha) guided farmers on importance of FPO, administrative structure, government initiatives etc. Webinar was attended by 150+ farmers through zoom platform & YouTube live (<https://youtu.be/KAHC8BIO5lg>)

iv) Millet Jatra Exhibition: We have participated in the 'Millet Jantra-2023' exhibition organized by Rotary Club (Pune) on 10th September. Our EDP mentee Mrs.Pramila Dhumal of 'Deshi-Ghana' participated in exhibition with her product. She sold products worth Rs.9500.00 during the exhibition.

Field visits:

- On 21st September, Yogesh onkar visited Mr.Sudhakar Gurav's (Bakery unit at Upari, Dist- Solapur) for on field support in millet-based products. He also visited Prabha-Hira Pratishthan (Palawi Institute, Pandharpur) to promote skill training courses.
- Ganesh visited Mr. Baban Padaval (Dairy farmer at Khairenagar) and Sandip Daine (General store, Manchar) on 18th & 23rd September respectively for on-field support.

Hero of the month:

Mrs. Pramila Dhumal started 'DesiGhana' a cold press oil (Lakadi Ghana Oil) production & retail shop At-Rajgurunagar, Tal-Khed, Dist.-Pune. Mrs. Pramila is in this business from past 1 Year. She contacted us for marketing linkage, social media promotion and technical support.

Mr. Ganesh Ghaytadak has started poultry farm with desi bird in the name of "Mananand Agro Farm" At-Karade, Tal-Shirur, Dist-Pune. We are helping him in Black Soldier Fly (BSF) based poultry feed management and also providing marketing support. He has 2500 poultry birds in free-stall rearing system.

G] Modernization of engineering & electrical section:

We are doing modernization of workshop at Vigyan Ashram with the support of M/S Mahle Engineering. We have purchased new tools (Bosch- Hammer hand drill, Plunge router, Random orbit sander, wood cutter and Tig welding machine). We have completed fabrication of welding curtain, erection of new light-pole in the workshop department. In electrical section furniture repair, installation of TV screen etc work is completed. Storage cupboards and hand tools, safety gadgets are purchased for electrical section. Fabrication work of new audio-visual classroom is under progress on 1st floor of administrative building.



Millet Jatra



Hero of the month : Ganesh's Mananand Farm



Tools, welding curtains for workshop

HJ) IBT Maharashtra & Uttar-Pradesh updates:

i) Seed the Future Entrepreneur competition: 15 schools from IBT and ATL network of Maharashtra, Andhra Pradesh, Telangana and Karnataka are participating in the Seed the future competition. We are guiding their teachers for technical difficulties.

ii) Instructor training on documentation: A two day's training on blog writing was conducted for IBT instructors on 8th & 9th September at Navlakh-Umbre school. Training was attended by 36 instructors from 9 schools supported by Schaeffler India CSR initiative.

iii) Students learning activities:

- Students of Tung School installed automated timer switch to 3 street-lamps in village. Village gram-panchayat took this initiative to save electricity.
- Students of Shirgaon School prepared 7 kg healthy laddoo's from fresh beetroot. Students tested 2-3 different recipes to incorporate beetroot in traditional laddoo recipe and finalized most accepted recipe. Students earned a community service of Rs.1250.00 while selling laddoo's in the school.
- Students of Tulapur school conducted an electrical-earthing testing drive in their village. They checked earthing pits for 30 house-holds in village & found 19 pits were not working properly. Students repaired earthing connections & also educated people on importance of proper earthing connection.
- IBT students of Pokhari School installed new-playground equipment's in the school. These equipment's were lying idle in the school premises from past 6 months due to unavailability of vendor. Students took charge of equipment's & installed them while learning basic engineering measurements and masonry skills. Students learned community service of Rs.3000.00 through this work.
- Students at Shivali School prepared 4 eco-friendly Ganesh Idols while learning pottery art. They sold these idols at exhibition held at Schaeffler India. Student's from 10 IBT schools of region also participated in exhibition to sell various food products worth Rs.7137.00.
- Students of 9th & 10th class in Tulapur school prepared Infra-Red (IR) sensor based 'Bless Me Ganesh' idol in school. The IR sensor was fixed to card-board made Ganesh-Idol to bless devotees during *puja*. Students learnt basics of electronics, sensor application etc through this activity.



Session on 3D printing



Installation of street light controller



Installation of earthing

- Online sessions: Four online learning sessions were conducted by VA team during September. Sessions were i) Using Vernier Calliper ii) Potable water analysis iii) Soil testing iv) Basic electrical circuit.

IBT Uttar-Pradesh updates:

- Students of class VI-VIII enjoyed hands-on learning activities based on simple electronics, solar application, kitchen gardening etc. They learnt making of solar dryer with bamboo, decorative LED trips, smart-samai, plant nursery etc.



Clay model activity @ Harwara school @ Prayagraj

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

- 11th September: 15 members from UNICEF, Worldwide offices visited State ATL training centre at ZPHS Karmanghat, Hyderabad. ATL Students demonstrated various projects made using advanced digital fabrication tools like 3D printing, electronics, craft, etc.
- VA team (Andhra Pradesh) conducted following 2 online sessions for ATL instructor on DIKSHA YouTube channel in Telagu with 1141 cumulative views –

Topic	YouTube link
Project using soil moisture sensor	https://www.youtube.com/live/vynVRkt1Arl?si=ctzbtiftNNG4xqnM
Energy Conversion using Peltier effect	https://www.youtube.com/live/mW6t8v_cYqk?si=5f1zG9_6f8QJzmht

- VA team conducted activities of designing Pantograph with 3D printer, clap switch, designing geometric shape etc activities with students of Narsapura (Karnataka) hub centre lab.

J] Do-It-Yourself (DIY):

- *Digital Ganesh*: DIY students celebrated Ganesh Festival with digital-fabrication activities. A *Digital Ganesh* training workshop was conducted on 15th & 16th September. Team of students & parents enjoyed making of Chandrayaan-3 theme based *Makhar* from waste cardboards. They have used laser cutting, 3D printing and paper electronics components to make it more attractive. Their learning can be viewed on – i) Making of Makhar : <https://youtu.be/HDoNtSwSs9> ii) Digital lamps: <https://youtu.be/l8QLHQKadic> iii) Papertronics Greeting card: <https://youtu.be/b5iXLQutiDU>



Makhar for Ganesh festival

- Membership students learnt 3D Designing and Printing (2nd Sept & 8th Sept); Designing Molds of various shapes in Tinkercad (9th Sept) ; Pop-up book using basic electronics and Fusion 360 (23rd Sept) ; Making Sand water filter (30th Sept)

K] Other tit-bits:

- Under Distance Learning Library (DLL) project, Prasad with content developers from Jnan-Prabodhani (Pune) completed on-site shooting of 'Water pump installation and repair' on 30th Sept. Shooting was done at M/S Pune Pumps sales & service Pvt.Ltd (Velu, Pune).
- Ranajeet gave presentation of 'Arresting rural migration through local employment' at State Consultation for Development of Action Plan for Rainfed Region of Maharashtra State workshop organized by Action for Agriculture Renewal in Maharashtra (AFARM) on 6th September.
- Mr.Zeno van der Zalm visited Vigyan Ashram from 6th to 9th September. He is teacher for students with autism spectrum disorder at Netherlands. He has developed AI tool to help special children. He has conducted hands-on training workshop for DBRT students on assembly of gadgets and also basics of coding, using Google API for AI based learnings during his stay.
- Kishor & Sumith visited to SRG engineering college (District-Krishna) and T-Labs (Hyderabad) on 8th & 10th of September respectively. They explore possibilities of collaboration & met VA alumni for networking.
- We have started painting of exterior of DIY lab dome. This is as per the suggestion of Hon Member Secretary of IIE. IIE is having national conference at J.P Naik Center. They have painted main building of J.P Naik Center and domes are painted



Video Shooting @ pump workshop



Ranajeet delivered talk at AFARM



DIY Lab @ JPNC

to look in resemblance with the same.

- vi. Eaton India Foundation conveyed their sanctioned and MOU is signed with them to support VA program for next 3 years.
- vii. Weather record – Rainfall of the month –243.65 mm (Total: 380.86 mm), Max temp-32.00° C, Min Temp –21.00° C, Humidity –82%, Water height in well– 6.80 M.
- viii. Energy consumption record- Electricity unit – III Phase-724 unit, I Phase import-64, Solar generation-1717. DG used – 9:30 Hrs.
- ix. Animal Husbandry section update – Milk production –668 Kg (Gross profit- Rs.7124.00)
- x. Biogas produced-Biogas unit is under maintenance.
- xi. Online visitors: www.dsttara.org – 950 (Organic search-534, Direct search-412), www.vigyanashram.com – 1035 (Organic search-459, Direct search-534). Campus tour visitors –218.

KJ Data Report: <https://shorturl.at/ckHKW>

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Photo Gallery:



Dahi handi Celebration



Unicef officials visit to Karmanghat ATL (Telangana)



Kishore conducting session on innovation @ S.R Godlavalleru College of Engineering @ A.P



Turbo ventilator fitted on Workshop roof

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