

Vigyan Ashram Status Report

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A] 18th March: Art Day at Campus

18th March was 6th Anniversary of 'Amma' (Mrs.Mira Kalbag). It was observed as 'Art Day'. We had invited team of 10 artist from 'Shikshantar' (Udaipur,Rajasthan). All student & staff worked in different groups with guest artists. The groups were for dance, singing, wall-painting, jewellery making and photography. Team practised from 15th to 17th March. On 18th morning, we paid tribute to Amma by performing meditation & sharing her memories. Afterwards student-staff presented their on stage performance. Here is the video link of learning activities

<https://www.youtube.com/watch?v= 2exgGidjD4>



B] Inauguration of Agri classroom and Food lab

SPA Education foundation gave us financial support to construct new agriculture classroom and extension of food lab. DBRT Students were involved in construction of both these room. They were involved in brick laying work, electrification, fabrication of shed, windows & door, plumbing & painting work. New agricultural & animal husbandry section (728 Ft²) has a classroom for 25 students along with storage room & WC unit. While new food processing unit has a classroom, utensils washing, storage (470 Ft²) facility along with kitchen table, trolleys & equipment.

As per our tradition, new facility was inaugurated at the hands of DBRT student who had taken maximum contracts and earned maximum amount of community services. Yash, Sudham & Rushi inaugurated the facility on 18th March.



DBRT team engaged in Agri and food lab construction

Yash, Sudham & Rushi inaugurated the facility on 18th March.

C] DBRT Alumni meet @ Vikramgad (VATF)

Every year, 2 – 3 students from tribal belt of Jawhar and Palghar completes DBRT course. We have organised DBRT alumni meet at Dhantri Gram Udyog, Vikramgad (Dist-Palghar) on 24th March. Twenty DBRT alumni from Palghar, Mokgada, Vikramgad, Jawhar & Wada attended this meet. A session on Entrepreneurship Development and opportunities and support available from EDP dept was taken on the occasion.

Ranajeet, Ganesh and Vishal also visited alumni enterprises in the region, ISKCON's Gowardhan Skill Training centre (Wada), Grammangal School (Aine), Pragati Pratishthan (Jawhar) and Kiya Hydroponics farm (Murbad).



C] Design Innovation Centre (DIC) project updates :

i) Grape dryer testing (VATF): A DIC alumni Mr.Ameya Kulkarni (a doctorate student at Institute of Chemical Technology, Mumbai) has designed a grape dryer as part of his thesis. It is decided to field test this dryer at Vigyan Ashram in collaboration with Marathi Vigyan Parishad (MVP, Mumbai). As per the design 2.5-ton capacity solar grape dryer is fabricated at Vigyan ashram. The blower & exhaust fans are fixed to dryer for better drying efficiency. We are planning to conduct three trials during April & May (2.5-ton grape loading) to test drying efficiency, air flows, product quality, drying economics etc.



ii) Designing of tunnel dryer: DIC fellow Dyaneshwar & Rahul prepared working drawing & Bill-Of-Material (BOM) for 50 kg loading capacity solar tunnel dryer. It is designed against requirement from customer Mr.Misal (Sangola, Solapur). He is using our flatbed solar dryer & wish to scale up his drying operations with tunnel dryer. DIC students compared various solar drying options for their loading capacity, efficiency, cost etc & finalized tunnel dryer for larger scale drying operations.

iii) **BSF larva as Poultry feed (VATF):** Ranajeet concluded Black Soldier Fly (BSF) larvae (BSFL) as a poultry feed experiment at Military campus (Pune). Experiment was carried out with 4 sets of feed treatments with 25 birds in each group.

A) 100 % regular poultry feed (control)

B) 100 % BSFL as feed

C) 50 % feed + 50 % BSFL

D) 25 % feed + 75 % BSFL

During trials, Treatment C was the best in weight gain per day (40 gm/day), followed by Treatment D (39 gm/day), Treatment A (38 gm/day) and Treatment B (35gm/day) during the trial period. Overall feeding cost per kg was lowest in Treatment B (140.37 Rs/kg) followed by Treatment D (147.76 Rs/kg), Treatment C (162.97 Rs/kg) and Treatment A (180.73 Rs/kg). Trials showed that broiler birds accept BSFL in live form. There were no signs of diarrhea or any other digestibility issues in any treatment set.

iv) **Tissue culture:** DIC fellow Ashwini successfully prepared 24 sub-culture bottles of Shiv Suman (*'Boucerosia frerei'*). Shiv Suman or Shindel Makundi is succulent forest plants of Western Ghat (Maharashtra). Its categorized as critically endangered-plant due loss of habitat, climatic changes etc. We are working with Shri Shiv Chatrapati College (Botany department, Junnar, Pune) on a development of in-vitro propagation method of this plant.

v) Ranajeet & Sonal conducted 1 day training workshop on 'Azolla farming & Agro-waste composting' for Bsc & Msc students (botany) SSCC (Junnar, Pune) on 3rd March. Twenty-seven students participated in the workshop to learn role of Organic Carbon (OC) in soil health management, effective composting & azolla cultivation through hands-on activities.

vi) Sonal & Ganesh conducted field demonstration & training of farmers on agro-waste composting at Pur, Vadgaonpir & Gadakwadi village on 24th, 25th & 27th March under Department of Science & Technology (DST) supported WOS-B project. DST – WOSB project was concluded on 31st March.

vii) 3D printing training: Two days training program (6th & 7th Mar) on 3D printing technology (design, operation & printer maintenance) was conducted for two faculty members of KCES'S M.J College (Jalgaon). College faculty wish to learn technology for its application in 'pearl farming'.

viii) Sumeth attended exhibition organized by 'Electronics for You' at Pune during 24th & 25th March. He interacted with industry experts, component supplies, entrepreneurs during exhibition.

ix) Fab-Academy 2023: Fab academy students are gearing up for their weekly sessions & assignments. During March they learnt basics electronics design, PCB designing, CNC router operation, SRM 20 machine operations. Students also started 'Make a Machine' a group assignment work.

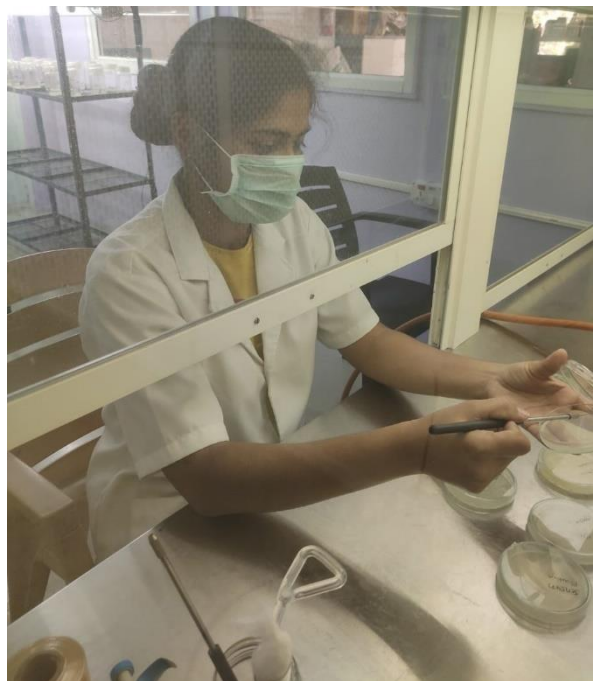
x) Students from SP Jain institute of Management & Research (Mumbai) joined for their DoCC internship of one month on 9th March. They will work with IBT & EDP section team for IBT evaluation and documentation of EDP success stories & program outcomes.

xi) **COOKING ON AN INDUCTION STOVE IS 13% LESS COSTLY THAN LPG GAS :**

DIC fellow Abhijit did survey of kitchen for cooking fuel used. He had measured & compared LPG gas required to boil 1 liter milk (10 gm/liter) with electricity required to boil 1 liter of milk (0.08 units/liter). The conclusion is Induction heating is less costly, we can save 13% amount.

Based on the study, we have decided to use induction heating for boiling operation in kitchen. We are using solar net metering system and hence have electricity almost free of cost & without any CO₂ emission. Abhijit did survey of Induction stove, Induction utensil and ordered it for Vigyan Ashram kitchen. He conducted training of kitchen mousi on use of induction stove and its working.

xii) Akshada and Mahesh attended workshop on 'Alternatives to Single-use Plastics' on 28/03/2023



Working in Tissue culture lab



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

i) EDP on Spices making enterprise: A two days hands-on training on 'Spice making enterprise' was conducted on 9th & 10th March. Training was conducted at 'Annapurna Masale' (Chakan, Pune). Training was attended by 8 students to learn 10 different spice-mix recipes, quality control, packaging & business model. After hand-on session, a field visit to Suvarna Masale Unit (Shelgaon, Chakan MIDC) was organized for participants. Mrs. Komal Parekh (Proprietor-KD's Masale), Mrs.Manisha Kolapkar (Annapurna Kandap Masale), Mr.Sachin Puneekar & Yogesh Onkar were resource person for the training.



ii) Soil analysis & composting training: Two weeks duration hands-on training was provided to Mrs.Shradha Dhavan at Pabal. Mrs.Shradha is a dairy entrepreneur & bio-fertilizer manufacturer from Nighoj (Shirur,Pune). She wishes to expand her enterprise with soil analysis service to farmers.

iii) Webinar on Digital Marketing: A webinar on digital marketing & social media promotion was conducted on 29th March. Training need was identified from feedback of EDP trainees. Webinar was attended by 44 participants to learn digital marketing tools, effective strategies, resource requirement etc. Mr. Sangram Kadam (founder-Goanny Technologies) guided participants & gave some useful tips in social media promotions.

iv) Ganesh & Ranajeet visited 4 EDP beneficiaries to guide them on their respected enterprises. A business registration support was provided to 5 new enterprisers (In this month- Udyam Certificate-2, FSSAI Licence-2, Pan Card-1)

Hero of the month:

Mr.Sudhanshu Warhade started a pig-farming enterprise (piggery) with a name "MJ Organics & Livestock PVT LTD" At-Junoni Tal-Wani Dist.-Yavatmal. He is our EDP training beneficiary during 2021-22 Yr. It's a first kind of business in entire Yawatmal district. He has invested is Rs.3.5 lacs and expecting a monthly income Rs.25000/-from his enterprise.

Mrs. Sunita Karmale started 'Karmale Goat Farm' at-Bhandgaon Tal-Parner Dist.-Ahmednagar. She is EDP training beneficiary & getting technical mentoring support from past 9 months. She has made an investment of Rs.2.6lacs & getting monthly turnovers of Rs.18000/-through this enterprise.



Sudhanshu Warhade

E] DBRT student learning updates (VATF):

Following are some of sections specific highlights of DBRT course :

1) Workshop section: Team of 7 students, completed plumbing work of new food processing unit with 2000 ltr tank, 270 ft UPVC line & 4 taps. Cost of work was Rs.16123/-. Rushikesh & Rahul learnt basic brick laying (17 ft³) & PCC work (60ft³) with labour charges of Rs.3119/-. Rutwik, Rushikesh and Sachin completed fabrication of 21 window-grill for new hostel. They fabricated grill of 304 ft² with total cost of Rs.41307/-.

2) Home & Health section: Students of home & health section processed 70 kg wheat flour to make bread in bakery. They also used solar dryer to process 16 kg onion & 7 kg Pooran-Mix. Students prepared 4 kg moringa+ linseed chikki and 2 kg Tamarind sauce. Total sales value of community service was Rs.10980/-

3) Agriculture & Animal husbandry section: Regular activities in agriculture and animal husbandry dept are in progress. Students harvested 70 bundles of methi, 17 kg of maize seeds, 15 kg brinjal, 4 kg alu-leaves in farming section. Students also learnt fertilizer dose calculation while applying water soluble (Potassium Phosphate) fertilizer to guava plants. Harvested 8kg grass, 30kg Rajagira grass, 10kg makkhan grass for fodder.



Masonry and flooring

4) Electrical section: Students in electrical section installed new domestic flour mill (Atta Chakki) in the kitchen. They also repaired 2 units of ceiling fan from boys-hostel, repaired LED lights and did regular electrical repair- maintenance work for campus.

5) To learn computer skill students regularly maintaining their personal blogs. Their learning can be found at <https://alumni.vigyanashram.blog/dbrt-batch-22-23/>

FJ IBT Maharashtra & Uttar-Pradesh updates:

IBT Maharashtra updates (stars):

- A meeting of School HMs of ten IBT schools supported by Schaeffler India-CSR was held at Talegaon-IBT schools on 24th March. Meeting was aimed to review of program, discuss challenges in implementation & planning for program sustainability. Mr. Gaurav (CSR Executive SCHAEFFLER, India) Mr. Sachin & Archana from STARS Forum guided school representatives during the meeting.
- Work of Solar PV on-grid system installation was completed at SDNPV, Chikhali School. It's a 15 KVA capacity on-grid system supported by Mahale Engineering Pvt Ltd under CSR initiative. System has helped school to generate required electricity for school campus.
- ATL Marathon: 16 IBT schools submitted their project entries in Atal Tinkering Lab (ATL) Marathon-2023. Its first time, IBT schools participated in ATL-Marathon with such large number. VA team helped students & school administration in proper documentation & submission of their projects.
- Highlights of community Service activities:
 - i) Hiware school : Students prepared vermicomposting from 1700 agro-waste. They sold 650 kg ready compost @ Rs.9/kg and earn Rs.5850.00 as a community service.



Students making composting bed

- ii) Chikhali school : Students fabricated an agri-waste shredder in the workshop section. They got an order for this equipment from Advait Housing Society (Pune). They earned a community service of Rs.3500/- from this order.
- iii) Moi, Hingangaon and Shindwane school: Students prepared natural Holi colour in school. Students used dried flower petals, vegetables, corn flour etc to prepared 10 kg powder & 20 lit liquid colours.
- iv) Shivali & Vahangaon school: IBT dept organized a 'food-mart' on the occasion of Women's Day. They prepared various food products in the Home & Health section. Students earned community service of Rs.1500 through this activity.
- v) Gudipadwa : Gathi sweets : IBT students from Rakesh Jain Madhyamick vidyamandir ,Shivkar has prepared a sugar gathi in their practical activity. They used 4 kg sugar, cotton thread, ghee, food colour etc. they prepared the sugar syrup and poured into the paper mould. They prepared a total 55 gathi and sold Rs.10 for each gathi in the school.



IBT Uttar-Pradesh updates (Stars):

- A model IBT tool setup is organized at UPS Madiyaon School (Lucknow). New setup will help school administration in understanding program activities & also help in conducting instructor trainings.
- UNICEF officials Dr.Zakari Adam and Mr. Tom in visited UPS Swinton Model School (Gorakhpur) on 14th March to know more about IBT program & it's impact on students' learnings.
- IBT project period for financial support from Unicef was ended on 31st March. We have submitted new proposal and hope to get approval soon.
- Bhakti conducted PESA training for instructors from UP and new staff members on 1st March.



Visit by Unicef officials

G] Atal-Tinkering-Lab (ATL) & Do-It-Yourself (DIY) project update:

- Kishore visited Hydrabad on 1st and 2nd March. He visited ZPHS school in Karmanghat in RangaReddy district in Telangana along with UNICEF education specialist Mr. Madhusudhan Sheshagiri, education consultant Ms.Brinda Nair and HM of the school. They reviewed the facilities and infrastructure of the school for establishing the state-level hub ATL. We will setup ATL in the Karmanghat school as a State training center.



State ATL school selection visit @ Karanghat

- Yogesh visited Vijaywada & Hyderabad from 27th – 30th March. He met Unicef and Govt officials. Objective of the meeting was to review progress of ATL project, plan for summer camps and submit proposal for next academic year. He had also visited Penamuluru ATL on 27th March, GHS, korukonda, East Godavari district, A.P with Mr.Srinivas garu on 29th March and Karmanghat school ATL on 30th March.



MOU signing with ATL Penamuluru



@ ATL korukonda

- Yogesh was invited for the online event of launch of ATL Sarathi initiative of AIM on 14th March. He shared VA's experience about working with ATLs in cluster based approach especially in hub and spoke model.
- Following online sessions were conducted for Andhra ATLs.
 - i) Let's build Regulated Power Supply <https://www.youtube.com/live/z9wpZBL-Xmg?feature=share>
 - ii) Let's build our own mini piano <https://www.youtube.com/live/RNKPmaLZGUQ?feature=share>
- The work of establishing state-level hub ATL and training centre at ZPHS Karmanghat (Dist: RangaReddy, Telangana) and Karnataka Public School, Narsapura, (Dist: Kolar, Karnataka) is at advanced stage of completion. It will be formally inaugurated & handed-over to schools in the next month.

DIY, Pune Updates: Following are some of the learning activities at DIY Lab -

- Origami using Tinkercad, blender & pepakura software (25th Mar) : Children designed their own components and used paper fold applications to create their paper models (Video link - <https://youtu.be/MoeMTG2FJIA>)
- Basic electronics: Children learned resistors in series & parallel through various ways like paper circuits, breadboard. (Video link - <https://youtu.be/iO7Bky48euk>)
- Wooden fabrication: Students made a bird-feeder making while learning use of basic carpentry tools (Video link - <https://youtu.be/OAD1enn2svY>)
- Natural color making (4th March) : On the occasion of 'Holi' students learnt making of environment-friendly natural Holi colors (Video link - <https://youtu.be/c4H5x4EdDRI>)
- Block Coding with MIT App Inventor (11-March)



Natural colours for Holi

H] Fab Lab for Tribal areas (DST supported project) :

Project to establish and operationalize Fab lab @ Narmadalaya (MP) & GSC Palghar (MH) is completed on 31st March. Lots of deadline meetings tasks were completed viz. bills settlement, budget utilization and concluding the project activities. Following are some of the highlights:

- i) Installation of CNC wood router machine and 3D printer at both locations was completed.
- ii) Fablab Palghar completed projects like Vermicompost automation, Temp /Humidity data logger, Water filter etc.
- iii) Fablab Palghar conducted two day's workshop for 35 students of ITI , Vikramgad.
- iv) Fablab Narmadalaya completed projects like Curd making machine, Wheat segregator, UV filter and purchased material for a sprouter project.



I] Other tit-bits:

- i. Wikipedia update: Wiki-team completed scanning of 2 books (301 pages) and OCR making for 12 books (1081 pages). Team got selected for WikiConference-2023 @ Hyderabad with 20000+ edits.
- ii. VA Management Committee meeting was held at Pabal campus on 18th March. Meeting was attended by Mr.Ashok Kalbag, Mr.Vijay Kumar, Mr.Mahendra Rajgude and Dr.Yogesh Kulkarni. Members discussed progress of ongoing projects, new project proposals & administrative issues. Administrative decisions were taken for further actions.
- iii. Mr.Fuma Nishizawa student of 'Education' visited Vigyan ashram from 27th – 29th March. He had stayed with DBRT students for 2 days and also took information about DIC , Fablab and IBT programs
- iv. Yogesh participated at Chintan Shibir on New Educational Policy 2020 organised by Kishore Bharati at IISER on 26th and 27th March.
- v. Slab of VATF hostel was done on 1st March.
- vi. To avoid forest fire in tree-plantation (at grazing land) a fire-line was prepared at Pabal campus on 15th of March. Fire-line will protect tree samplings from wild-fire spread due to human error.
- vii. Women's Day was celebrated on 8th March. Girl students decorated campus on Women's Day & have women day party.

Name of college	Date	Visitors
KBCNN university	1 st March	49
D Y Patil Agriculture Engineering & Technology (Talsande, Kolhapur	11 th March	10
IIT, Mumbai Education Technology	15 th March	38
College of Art, Bidkin	16 th March	17
MVPS college of architecture & design (Nasik)	17 th March	40
SSC college, Junnar	23 rd March	23
DY Patil ASC Pimpri	24 th March	50
PK Technical campus, chakan	30 th March	47

Educational Tour to Vigyan Ashram in the month of March

- viii. Holi was celebrated with natural colors. DBRT students made eco-friendly 'Holika'. We put condition that there will be no burning any fire wood & dung cake for holi celebration. Students created illusion of holi fire using 50 Watt LED, red transparent paper , fan & waste cotton. It looks like real fire and students performed traditional dance, tribal holi dance around this Holi.
- ix. Weather record – Rainfall of the month – 0 mm (Total: 935.77 mm), Max temp-36.00°C, Min Temp –16.00°C, Humidity –33 %, Water height in well– 3.45 M.
- x. Energy consumption record- Electricity unit – III Phase -645 unit, I Phase import-261, Solar generation-1975.00. DG used – Hrs.
- xi. Animal Husbandry section update – Milk production –956 lits (Gross profit- 22088/-), Per lit cost of production is Rs.17.25 per lit , Goat – 6 kid average weight gain 54 gm/day
- xii. Biogas produced-44.90 M³ (Dung used- 898.0 Kg)
- xiii. Online visitors: www.dsttara.org – 826 (New visitor-734, Repeated-92), www.vigyanashram.com – 1099 (New visitor-895 Repeated-204). Campus tour visitors –135+???



Holi without burning dung cake and wood

JJ Data Report: https://docs.google.com/spreadsheets/d/13y0XPGri0PEOlrX5Zeuk9VBArb-f4b_Q/edit?usp=sharing&oid=101141840668207826730&rtpof=true&sd=true

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KJ Photo Gallery:



Drenching of Guava plants



Akshada & Mahesh @ workshop on Alternative to single use plastics



Spinach harvesting from hydroponics system



Food lab drying Pooran mix



Newly constructed Food lab (SPA Support)



New Agriculture Classroom (SPA Support)



3D printed jewellery @ Shriram Vidyalaya



DBRT Plumbing work on food lab

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