

Vigyan Ashram Status Report

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A] Community Services : Doing business while learning

DBRT student Keshav started manufacturing chikki after his classes and selling it to shops in Pabal village. He had made and sold 20kg chikki in the month of December. Providing community services is important component of DBRT course. It gives students opportunity to learn business skills. Workshop students are preparing different items from scrap. They will be selling it to villagers. Students prepared poultry cage and many other items are in the pipeline.



Selling milk to dairy, maintenance and repair of electrical appliances, insemination service for goats and similar

other services are regularly provided by DBRT students as part of their course.

We have conducted Entrepreneurship Development Program for DBRT students under Pradhan Mantri Yuva Yojana in collaboration between VATF and Vruksh Ecosystem Foundation between 7th – 10th Dec.

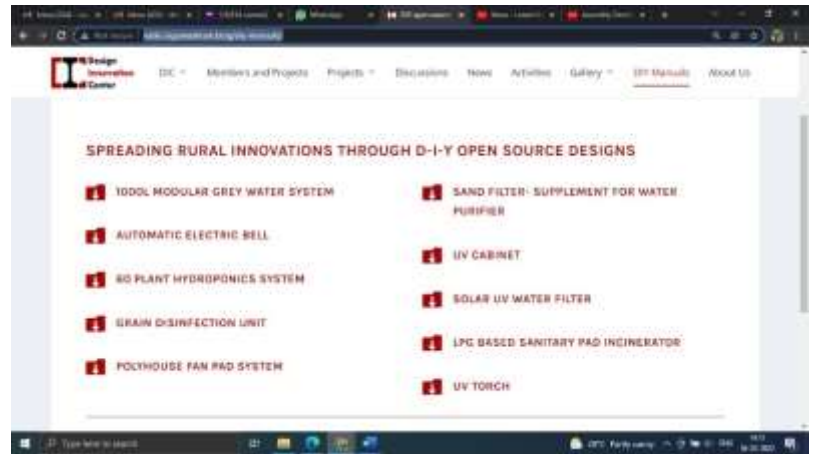
B] Do-It-Yourself Designs project completed

We have completed digital design and instruction manuals of ten technologies developed under Design Innovation Center (DIC). The project was supported by Dassault System's La fondation. It includes designs of Grey water recycling system, solar water filter, Grain disinfection unit, automatic school bell, hydroponics system, polyhouse, sanitary pad incinerator. Designs are available for download on : <http://vadic.vigyanashram.blog/diy-manuals/>

La fondation also sanctioned new proposal to develop skills training video content. The proposal will be executed through STARS forum organization.

Modular Grey Water system developed under DIC project was shortlisted in the Make-a-Ton 3DEXPERIENCE World 2022 competition focused on "Sustainable Future", sponsored by Dassault Systèmes SOLIDWORKS.

We are among the top 12 entries. We had four orientation sessions in this month for guiding us to prepare our entry and develop business plan. We will be making presentation in the finals in the month of Jan 2022.



Screen shot of website of DIY Designs

C] DNA sequencing of Agri compost culture: Under the WOS-B project, we had developed consortia for making compost of agriculture waste. From that consortium we had isolated some effective fungi and bacteria. In order to identify the exact species of fungi and bacteria, Sonal, Kedar and Sapna worked in lab at Savitribai Phule Pune university from 21st December to 28th December. For identification of above isolated fungi and bacteria, they had performed DNA sequencing techniques (DNA extraction and PCR and Gel electrophoresis) under the guidance of Dr.Mahesh Borde. Through this study our aim is to find out the name of isolated species.



DNA band of 12 sample

D] IBT Maharashtra & Uttar-Pradesh updates:

IBT Maharashtra:

- **IBT school coordinator training:** A IBT coordinator training was conducted on 15th & 16th December at Pabal & Pune campus. 15 coordinators participated in the training. Preparation for 'Technovation' exhibition, IBT examination pattern, reporting requirements etc were discussed during the training.

- We have received support for IBT program in one school from Tata Technologies. Project will be implemented through STARS forum.



IBT Co-ordinators training

Following are highlights of IBT activities :

- Nimgaon IBT Students fabricated manually operated 'groundnut thresher machine'. It can remove 3kg ground nut shell at a time. The cost of material used was Rs.1260/
- IBT students of Chikhali school prepared 10 lit liquid soap for their school kitchen.
- Students of Agriculture section at Dhamari school prepared 400 seedling of chilli for farmer in village. Students invested Rs.650.00 for this activity and sold final product @ Rs.800.

IBT Uttar Pradesh:

- Delivery of tools for setting up of IBT workshop is started. Tools were delivered to 20 schools in Lucknow, Prayagraj, Varanasi, Kanpur and Chandauli districts. Sharad and Vishal visited all these schools during 20th Dec to 3rd Jan to help school in installation of tools etc. Tool delivery was halted due to COVID third wave lockdowns & traveling restrictions.
- A one-day online coordinator training was conducted on 6th Dec at Sadar Bazar B Macharia School for schools in Kanpur.
- VA team interviewed and help schools to appoint instructors. Total 37 instructors are appointed so far.



Ground nut thresher

E] Entrepreneurship Development Program (EDP) update:

Poultry farming : EDP training on 'advance poultry farming' was conducted on 11th Dec to 12th December. Its was hands on training conducted at Paud (Pune) in association with Mulshi Shaikshnik & Sanskrutik Sanstha (Mulshi). Training covered advance practices in commercial poultry farming as feed management, vaccination, egg incubation etc through hand-on activates & field visit. Total 16 youth were participated and VA team of



Mr.Bhanudas Daundkar, Mr.Yogesh Onkar, Mr.Vishal Jagtap guided the participants.

Bakery Training : A 3 days hand-on training 'bakery enterprise' was conducted during 26th to 28th December. Four students attended hands on training at Pabal. Student learnt baking recipes (bread, toast (rust), cake, cookies etc), selection & operation firewood / electrical oven, yeast proofing etc and soft skills, preparing business plan etc.

Entrepreneurship support:

Social media promotion: We have helped SIMPRA food products (Mumbai) to develop posters and communication material.

Sachin visited Samarth Masale run by Ms. Kavita Thorat to provide technical & marketing support. Yogesh had provided enterprise registration support to 6 budding enterprise (Uyam Aadhar Certificate-2, FSSAI Licence-2, Shop Act-1, GST registration-1)

Hero's of the month:

Mr. Tushar Kamble: Tushar has started his goat farming enterprise in the name of 'Aruj Goat Farm' at Pali Dist- Satara. He is DBRT alumni of 2018 batch & also beneficiary short-term training under EDP support.



Tushar Kamble @ Goat farm

Mrs. Kavita Shinde has started banana wafers enterprise in the name of 'Shinde's Food' at Pabal. We are helping her for enterprise registration, packaging, labelling, marketing, business development, and related support through the EDP program.

F] Design Innovation Centre (DIC) update:

i) VA Automated gate : Chaitanya installed automatic – Google assistant operated gate for Vigyan Ashram. It was using 1/2hp motor. After brainstorming, it was decided to design hydraulic operated system. Chaitanya designed the system and now it can operate on 18watt pump. Details are available on his blog :



<http://vadic.vigyanashram.blog/2022/01/03/automatic-gate-control-system-version-2/>

ii) DIC students had a review meeting with Ms Zaineb from Eton foundation on 15th Dec.

iii) We have decided to stop work on baling machine for plastic waste. We have found that project will not become feasible at present stage. We may revisit it again.

<http://vadic.vigyanashram.blog/2021/12/12/baling-machine-2/>

iv) Sakshi completed her project of designing Hydroponics System for indoor flower plants for interior.

<http://vadic.vigyanashram.blog/2022/01/12/interior-led-hydroponics-flood-and-drain/>.

Some issues regarding operations were observed. It needs to be further worked on.

v) Tissue culture lab : We are in process of setting up processes for tissue culture lab under guidance of external experts. We have done inoculation of tobacco seeds in 15 bottles were done on 1st Dec. We did subculture and prepared 38 bottle of 1.5 lit MS basal media with three different BAP concentration 0.25mg/ml, 0.5 mg/ml, 1mg/ml rep. for shoot and root formation on 31st Dec.

vi) Suhas returned from Bhutan on 13th Dec. He had conducted pre-academy sessions with Fab Academy 2022 batch. He will be lead instructor for Bhutan Fab lab.

vii) Fab Academy 2022 admissions are in progress. We have six confirmed admissions so far.



First plant (Gokarna) for hardening from tissue culture lab

G] DBRT students activity updates:

i) Students shifted to third sections after completing internal examination for first two sections. Following are some of the highlighted activities during December month

ii) Agriculture & Animal husbandry section: We are facing water shortage for farming due to lower rains this year. We are cutting down some agriculture activities this year.

iii) Energy & Environment section: Students learn installation of 5KVA solar system while participating in installation of on-grid system at Mukhai school on 4th – 5th Dec.

They also learnt operation AC motors while repairing air blower & water pump on campus.

They earned community service of Rs.2350.00

Workshop section: Students fabricated a

poultry cage from scrap material. Total value of community service offered by them in Dec was 27784.00 through various works.



Solar installation @ Mukhai school

H] DIY lab & ATL lab training updates:

Following sessions were conducted at DIY lab. Urban farming (4th Dec), Arduino programming (smart dustbin (11th Dec), 3D printing (18th Dec), Christmas workshop- Cake (25th Dec), App making

We are also helping IBT schools near Pune for preparing their science projects for Technovision project competition.

ATL Chhattisgarh:

Following online sessions were conducted this month, 3D modeling session(4th Dec), Solar power (8th Dec), Molding and Casting(10th Dec), Blind Stick (14th Dec) Soap Making (17th Dec), IC 555 timer(21st Dec), How to design for 3D printing (24th Dec),Detailing of ATL Marathon (28th Dec). We are also guiding schools for their Aspire competition project.

Priyanka conducted off line workshop with students at Government Higher Secondary School, Ramnagar, Raipur on 1st Dec.



Session @ Raipur school

Andhra ATL project :

i) Yogasree attended DEO conference on 9th Dec. Officials from 13 districts were present. ATLs project was introduced to them. Secretary and Director impressed all officials about importance of ATL project.

ii) Yogasree presented Model ATL project on 11th Dec, 2021 in ATL awareness program in Krishna District with around 36 ATL schools principals.

iii) Following ATL labs were visited – SRSM High school, Tenali, Guntur (3rd Dec), APMS Gampalagudem school (14th Dec), APSWR Rangapuram (15th Dec), ZPHS Movva School (28th Dec)



Support Visits to APMS Gampalagudem

I] IIE Crises : IIE trustees crises is finally giving signs of resolution. Bombay High court on 21st Dec passed an order to appoint a retired Judge as an administrator on IIE Trust. This will help in defreezing of bank account. We are hopeful administrator will take charge in the first week of January. In the meanwhile, several our supporters had helped us financially via Danamojo payment raising platform of Stars forum. We are thankful to all our well-wisher, who had provided us financial support during the challenging time.

J] Other tit-bit:

i) Dr.Yogesh Kulkarni is invited on committee constituted by NCERT, New Delhi. Committee is formed to prepare position paper on implementation of National Education Policy 2020. He will be part of focus group on 'Vocational Education in schools.

ii) Wikipedia - **विकिपीडिया**: [बुलेटिन](#) हे बुक स्कॅन केले आहे.

[रानडे इंग्रजी मराठी शब्दकोश खंड पहिला](#) (The Twentieth century English-Marathi Dictionary

Volume1) हे पुस्तकाचे १००-१५० पाने प्रूफरीडिंग करून झाले आहे.

iii) Yogesh gave a talk on Science and Technology intervention for social entrepreneurship for livelihood at India International Science Festival (IISF-2021), Goa on 13th Dec.

iv) Yogesh gave invited talk to students of Gajanan Maharaj Engg College, Shegao on 24th Dec.

v) Praj foundation has agreed to support VA-TF. We will be able to commercialize and scale up technologies and our program.

vi) Mr.Sunny Bansode has resigned for better prospect. We wish him all the best for future endeavors.

vii) **Donations** : We are thankful to following donors for their support to

Vigyan ashram activities : Mr.Nandkumar Jawale, Mr.Chaitanya Nadkarni, Mr.Rohit Bansal, Mr.Nandkumar Mahajan, Dr.Anil Date, Mr.Atul Yadav, Mrs Vimala Lat

viii) STARS forum conference: Vigyan ashram took active lead in organizing STARS forum conference organized between 6th Dec – 11th Dec. <https://starsforum.org/>

ix) Weather record – Rainfall of the month -55.30 mm (Total: 650.98 mm) ,Max temp-42.00° C, Min Temp –12.00° C , Humidity – 85 % , Water height in well– 6.55 M.

x) Energy consumption record- Electricity unit – III Phase -2170 units , I Phase import- 180, Solar generation- 1508. DG used – 04.00 Hrs. Quality of power : Number of interruption-53 Normal voltage : 82.32 % , Low voltage :11.85 % , No supply: 2.76 % , No data: 5.11 %

xi) Animal Husbandry section update – Milk production – 482.50Kg, Poultry –NA, Goat- FCR of 3-month-old kid 4.06 (1 new male kid added in stock)

xii) Biogas produced-17.58 M³ (Dung used-439 Kg), E-rikshwa uses- 684 Km (Electricity cost-Rs.184.60)

xiii) Online visitors: www.dsttara.org – 730 (New visitor-654 Repeated- 76), www.vigyanashram.com – 891 (New visitor-719 Repeated- 172)



Solar panel was install at DIY during temporary powercut at IIE-JPNC

K] Data Report: <https://docs.google.com/spreadsheets/d/1zP3c7GE7-nJioxa-ro8myLpfqSDbeEqE/edit?usp=sharing&oid=101141840668207826730&rtpof=true&sd=true>

(Work of VA is supported by Asha for Education, Praj foundation, ETON Foundation, L & T infotech, SPA Education Foundation, , INDUSA Endowment, Govt of Chhattisgarh, Savitribai Phule Pune University, Unicef, La fondation, Dept of Science & Technology, and many individuals and foundations)

For Regular update: www.facebook.com/vigyan.ashram.pabal ; www.vigyanashram.blog
www.vigyanashram.com

Photo Gallery:



Agri activities at DIY Lab



Technovision preparation : DIY Lab team @ IBT school



DBRT Fabrication



DBRT Lathe practicals



Tissue culture plants



compost