

# Vigyan Ashram Status Report

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### # Vigyan Ashram in Action # Mission Begin Again

- **Campus started 'Buzzing' as Students Return**
- **Bakery training for students from Dantewada**
- **Installation of Solar water filter at residential school in Pune**
- **Diwali Celebrations & campus update**

[ Government has allowed craftsmen and entrepreneurship training institutes to start training by adhering to COVID advisory. We are admitting students in a batch of five students at a time. There is a 10 days mandatory quarantine period for students. A first preference is for students from remote location & with difficulties in getting internet connectivity. Students needs to submit consent of parents before joining the campus. Students health records are maintained and It is also mandatory to follow all COVID behavioural guidelines on campus.]

### A) Campus started 'Buzzing' as Students Return

- On 23<sup>rd</sup> Nov, 15 students joined Vigyan Ashram. They are 5 students from Barefoot college, Tilonia (Rajasthan) and 10 students from remote parts of Maharashtra joined the campus.

Students are given agricultural (on farm) activities for first 10 days and then they are allotted their section. Those students who are not on campus are attending their online classes & practical's at 'Work benches'.

- 'Ghoongadi Farmers Producer Organization' (Dantewada) wanted to start bakery at Dantewada with the help of District administration. They want to use local raw material and make new 'healthy bakery products. They send three



youth from Dantewada for 40 days bakery training at Vigyan Ashram. Their course activities were started from 20<sup>th</sup> November (after finishing 10 days isolation period). They will be learning and practicing skills in making of bread, cookies, cakes, toast and other bakery products.

- Short term Fabrication course trainee Ganesh & vikas fabricated a ladder and also



helped in fabrication of compost stacking racks. They earned Rs.1086 as community service for their work.

**B] Pabal Campus updates:** A festival of Diwali was celebrated on Pabal campus with full of joy & enthusiasm! Most of the staff members were on campus during lockdown, they went home after long time. Those who stayed back on campus celebrated Diwali with making different designs of sky lanterns from scrap material, Diwali sweets (Pharal), beautiful Rangolies etc. Here are the snapshots:



#### **Pabal campus work highlights-**

- Electrical section : Students learnt basics of electrical fitting while repairing connection in poultry shed & polyhouse. Total value of their work was Rs.1275.00.
- Agriculture & animal husbandry section : Students were introduced with basics of soil sampling & testing. Students also harvested 4 Kg of beans, 12 Kg spinach, helped in harvesting grass for cows etc while learning day to day agricultural operations.
- Home & Health section : Bakery training students learnt making of bread and cookies. They also learnt making of moringa fortified chikkis & ladoos. They earned community service of Rs.1945 while learning these skills.
- Toilet construction (Asha for Education): Work of RCC slab curing, drainage lines fittings is completed. Wall plastering work has been started in month of November.

### C] Fab School for Fab Village :

i) Vigyan ashram's three projects supported by 'La-foundation' were exhibited at their annual day event on 20<sup>th</sup> Nov. We have made 3 min video of project supported by La foundation.

i) Fab School for Fab Village :

<https://www.youtube.com/watch?v=LrjDizlY9ho&feature=youtu.be> ( 3min )

<https://www.youtube.com/watch?v=o1sKN5CzoSw&feature=youtu.be> ( 5 min)

ii) Spreading Rural Innovations through D-I-Y Open-source Designs :

<https://www.youtube.com/watch?v=ssdz2E-UOeY&feature=youtu.be>

iii) Composter : <https://www.youtube.com/watch?v=bBC61mIEgKl&feature=youtu.be>

**ii) Fab School @ Mukhai school :** Prasad completed fabrication of 'modular gray water recycling' system and started its installation work at Mukhai School. Unit was dispatched to Mukhai.

Pooja & prasad also finished their work on designing of 'water filtration unit' and 'hydroponics vegetable' cultivation system.

Details are available on :

i) <http://vadic.vigyanashram.blog/category/fab-school-for-fab-village-la-foundation/>

ii) <http://vadic.vigyanashram.blog/category/la-foundation/>



### D] Technology Development & Design Innovation Centre (DIC) update:

- **Increasing efficiency of Fan Pad System :** Ameya Bondre is working on this project to increase water distribution efficiency in 'Polyhouse fan-pad cooling system'. The project is important for climate control polyhouse. As a part of the project, he has designed, fabricated & installed water distributor for cellhouse pads. He has changed water distribution pump as per the modified distributor design. In the field trial, it is found that modified design has increased the pad wetness efficiency from 60 to 94 % (34 % rise).

Increase in water distribution has resulted in achieving uniform temperature & humidity inside polyhouse. He is also studying airflow patterns inside the polyhouse through CFD stimulation. Details of his experiment available on - <http://vadic.vigyanashram.blog/2020/08/26/non-uniformity-studies-of-air-temperature-and-humidity-distribution-in-polyhouse-using-cfd/>



**Modification of water distribution holes**

- **Fertilizer for hydroponics :** Soham Suntankar is working on finding cheaper substitute for liquid fertilizer in hydroponics farming. He is trying to get nitrates from low-cost source like ammonia and urea using biological process. He has successfully converted Amide form nitrogen ( $\text{NH}_3$ ) to nitrate ( $\text{NO}_3$ ) by using specific 'microbial consortium', biofilm carrier (MBBR) in aerobic condition. He has found that 200 ppm of ammonia can be converted into 390 ppm of nitrate in 9 days of experiment (at 1:4 to 1:8 C:N ratio). He is further exploring his experiment for field trial in polyhouse hydroponics spinach cultivation.

- **Solar DC air blower:** Sanket has installed 'solar DC air blower' to girl hostel's grey water system. Sanket is now working on Solar exhaust fan for polyhouse air circulation. He is using VFD controller based 1.5HP AC exhaust fan.

- **Solar Water filter:** Priyanka Gharat installed 1 unit of 'Solar water filter' at PS Gurukul School, Chinchwad. The unit was developed under Solar innovation project and documented as part of La-foundation supported DIY open source design library



**Water filter at PS Gurukul. Chinchwad**

- **Plastic pyrolysis :** Prasad has conducted trial 39 Kg waste plastic (LDPE) in plastic pyrolysis system. Complete experiment has taken 9hrs, in which loading of plastic took 5hrs30min. Power consumptions for complete test run was 124kWh. Mass balance of experiment was around 95% in which oil was 72% around 28Kg, gases were 9% and Char was 14%. Now Prasad is working on improving system efficiency. During Diwali vacation, Prasad visited Phonics Products Pvt Ltd (Belgaum, Karnataka) on 18<sup>th</sup> November and discussed with Mr. Sameer Kalburgi about difficulties in plastic belling machine.

- **Composting of Agro biomass :** Sonal treated 4 ton of agriculture biomass as compost field trial at Zodgewadi & Ghodekarwasti in Pabal village under WOS-B project. She has also started culturing microbial consortium for PCR based DNA analysis.



**Composting bed at Ghodekar vasti**

- **Ranajeet** attended 2 days online training on 'Seed production and hatchery management of air breathing fish' during 26<sup>th</sup> to 28<sup>th</sup> November conducted by Central Institute of Freshwater Aquaculture (CIFA). Training will help us in better understanding and management of 'Vietnamese Koi' fish farming in aquaponics farming.
- Yogesh and Dr.Arun Dixit gave webinar on Terrace gardening for employees of Dassault Systems on 27<sup>th</sup> Nov.
- We have received 1000 samplings of Giloy (गुळवेल) from Dept of Botony of Pune University(SPPU). These are medicinal plants and we will be nurturing them.

## **E] Entrepreneurship Development Training programs:**

- 'Market Networking' meeting of Food entrepreneurship course students was organized on 7<sup>th</sup> November @ DIY Lab, Pune. Meet was aimed at providing networking support & mentoring for newly incubating 'food entrepreneurs. Five budding entrepreneurs participated in the meet and shared their products & marketing information for mutual benefit.

- Goat farming : 2<sup>nd</sup> Batch of goat farming- EDP program was started from 26<sup>th</sup> November with 10 participants. We will be having 9 online sessions (15 to 20 Hrs) to cover important technical aspects like selection of breed, housing, vaccination, feed management etc. Student will be called to visit Pabal campus individually to have hands-on training & mentoring sessions.

**'Heroes of the month' enterprise success story**

- Mangesh Darekar:** Mangesh has started his Azolla cultivation unit at Karanti, Tal- Shirur. He is working in a private company and also has cows at his home. He experimented the use of Azolla and after getting benefited he started Azolla cultivation unit at home and selling the same to the local community. This is low investment business. He is getting hand-holding support in EDP program.
- Shubham Yede:** Shubham has an oil mill at Kavathe Yemai, Tal- Shirur. With the support of Vigyan Ashram's EDP program he took training on food processing and started manufacturing and selling of Low fat chikki and Ladu made from residue of Oil seed after extracting the oil. He has 5 types of Chikki and Ladu made from Almond, Groundnut, Coconut, Til and mix .



Shubham Yede

Goat farming poster

**F] IBT schools updates:** November was month of Diwali festival and mid-term exam. As a part of online training support, Diwali lantern making training workshop was conducted on 6<sup>th</sup> November. Total 32 instructor and 149 IBT students from 10 school learnt different type hand-made lantern using bamboo, balloon-based mould etc. Following are some of the highlighted activities done by students during the month of November -

- Students of Marunji & Amboli made 14 lanterns using various recyclable material like old cotton thread, bamboo sticks etc. They had also prepared necessary electrical connection and sold these lanterns in their village.
- IBT students of New English School, Dhamari painted 23 classroom benches in schools. They learnt painting surface preparation, preparing paint for spray painting etc skills through this activity while earning community service of Rs.2500.
- Students of workshop department in Amboli



Tribal Development Minister visited Lohara school.

schools, fabricated iron bed and safety door while learning basics of metal fabrication. They earned community service of Rs.1500 from this activity.

- IBT students of Madhyamic Ashram Shala, Lohara (Tal- Raver, Dist- Jalgaon) exhibited their learning activities & products on 7<sup>th</sup> November in a small in-house exhibition. Hon.Tribal Development Minister Shri.M.C.Padavi and local MLA Mr.Shirish Chowdhari visited this exhibition & appreciated IBT student's work during pandemic lockdown.

### G] Do-It-Yourself Lab:

- i) Pooja conducted two online sessions for 9<sup>th</sup> class students on 'Basics of Aurdino & Tinker CAD application'.
- ii) DIY Lab's 'To Become Young Engineer program' is progressing well. We had two online sessions - 'Ayurvedic plants in kitchen garden (4<sup>th</sup> Nov)' & 'Make your own first aid kit (11<sup>th</sup> Nov)' with combined participation of 115 participants. Students are enjoying these sessions. It is reflected through their 'hand-on activities' & assignments.

### H] Wikipedia publication:

We are proud to have very dedicated and competent 'wiki-volunteers' as team members. Komal Shambhudas participated in 'Wikisource Proof-read-thon' and won 'Silver Branstar' (2<sup>nd</sup> price ). The competition was aimed to recognize 'proof reading skills' of wiki-volunteers ([Indic Wikisource Proofreadthion 2020 - Meta \(wikimedia.org\)](#)). Wiki-team has also participated in 'Global Conversation Conference' @ 21<sup>st</sup> November. Following are some of the highlights of digital content publication work :

- Scanning work completed for-Tarun Bharat Sangh 69 Books (3000+pages), Dr.Bhaskar Giridhari – 8 books (910 pages), Khed Library - 3 Books (679 pages)
- Work of TRS template making for 'Tarun bharat books' is completed.
- 70 Ramdas Abhang Uploaded on Wikisource.
- New Wikipedia articles published – [केंद्र](#) , [बायोगँस](#) , [सँदिय खते](#)

### I] Other tit-bit –

- i) Vigyan Ashram is partnering with Mukhtangan Exploratory for organising 'Toy Making competition – Khel Khel Mein'. It will be held on 28<sup>th</sup> Feb. We will be conducting sessions on making toy-based games and helping students in fabricating their games. Competition was launched on 1<sup>st</sup> Nov 2020.
- ii) Agrowon a leading agricultural news daily published an article 'विज्ञान आश्रम: ग्रामीण तंत्रज्ञानाचा अनोखा प्रयोग' in Diwali special annual edition (दिवाळी विशेषांक).
- iii) Mr.Heramb Kulkarni interviewed Dr.Yogesh Kulkarni in his education series. (Link- [शिक्षणगप्पा\(भाग३७\)विज्ञानआश्रम?योगेशकुलकर्णी मुलाखत - YouTube](#))
- iv) Vigyan Ashram has submitted proposal to Department of Science & Technology , SEED division under the scheme of 'Women Technology Park' for promoting technology based enterprise for Konkan region of Maharashtra state.
- v) Donations : Vigyan Ashram is thankful for following donors for their support to Vigyan Ashram , Dr.Ramkrishna Sonde, Mrs.Vidya Arvind Kasargod, Ms. Asha Ratilal Adatia, Mr.Atul Kulkarni, Social Seva Initiatives.



- vi) Weather record –Rainfall of the month -1.4 mm (Total – 666.74 mm) ,Max temp-38.00 °C, Min Temp –14.00 °C , Humidity – 92 % , Water height in well – 6.20 Mtr.
- vii) Energy consumption record- Electricity unit – III Phase -1260 units , I Phase Export- 184 units, Import- 306 units. DG used – 03.15 Hrs. Quality of power : Number of interruptions : 65 , Normal voltage : 82.26%, No supply : 5.46 % , low voltage :11.92 % , No data: 0%
- viii)Animal Husbandry section update – Milk production – 438.2 Kg , Goat farm- 2 Kid died (due to weakness), Poultry Egg production – 105 dozens (FCR – 2.27)
- ix) Biogas consumption – Dung used- 710 Kg , Gas produced- 30.92 M<sup>3</sup>, Two wheeler record– NA
- x) www.dsttara.org – 1207(New visitor –1044 Repeated- 163) , www.vigyanashram.com –1049 (New visitor – 843 Repeated-206)

**K] Data Report:**

<https://drive.google.com/file/d/1n81s0vc8H8m0Wwfs-MBZnCzw0N-Fxcox/view?usp=sharing>

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**Photo Gallery:**



Toilet construction in progress



Fabrication of ladder

**Water Filter**

In this water filter use 4 stages of filtration process. That is a sand filter then activated sludge carbon filter with activated sludge carbon cartridge filter and last UV treatment stage for the water. After each of these UV treatment is used for the disinfection process. UV Water treatment is the best option to remove bacteria-contaminated, disinfectant and carbon filter to avoid the removal of chlorine and carbon.

In this filter a sand filter is used to remove insoluble impurities in water before the filter. For this reason the sand filter is equipped.

**Objective:**  
To remove suspended and dissolved solids, reduce iron and manganese, reduce hardness, improve taste and odor.

**Selected features:**

- Easy to assemble
- Low cost
- Low TDS
- Removes iron, manganese, hardness
- Low power consumption

**Purification method:** UV purification  
**Stage of purification process:** 4 stage  
**Flow rate:** 25L/hr  
**Power Consumption:** 40W  
**Operating Input Voltage:** 220V AC  
**Product Dimensions:** Length 40cm X Width 26cm X Height 60cm  
**Color:** Blue

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Water filter for residential schools

**तुमच्या गच्चीवरील टाकी भरून वाहतीये का ?**  
आता करा पाणी उणेची बचत , नीर - वॉटर ओव्हरफ्लो कंट्रोलर च्या साहाय्याने !!

**नीर वॉटर ओव्हरफ्लो कंट्रोलर**

**वैशिष्ट्ये :**

- पाणी भरण्यासाठी स्वयंचालित मोटर-बंद किंवा चालू करणेसाठी गरज नाही .
- उणिवावरील किंवा खालच्या टाकीत पाणी पातळी पोचते व (साधारण मोटर बंद किंवा चालू करते.
- उच्च परासिता मोटरसाठी वापरता येते .
- स्वयंचालित किंवा हाताने चालू बंद प्रस्था शोध पद्धतीने वापरता येते .
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Water overflow controller

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