

Vigyan Ashram Status Report

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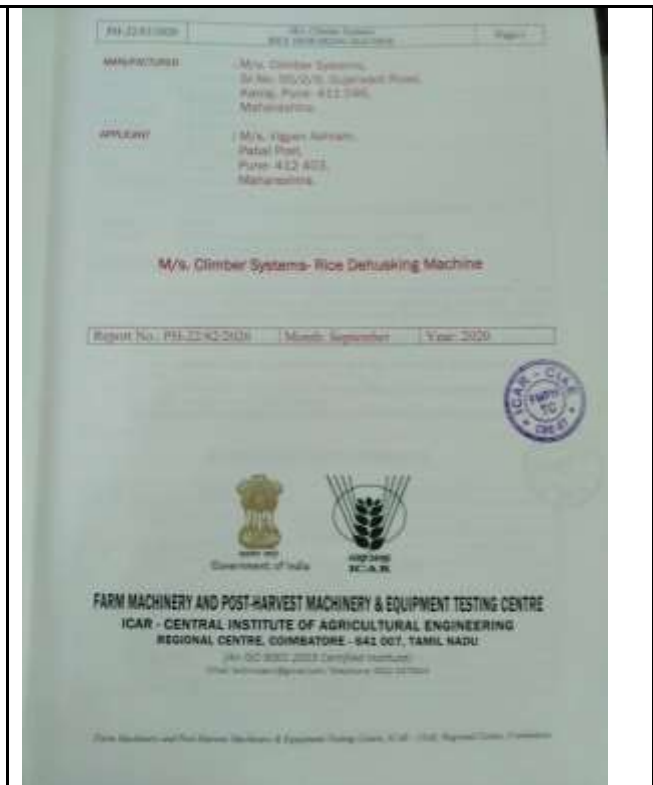


Vigyan Ashram in Action # Under Lockdown

- Rice Dehusking machine got certified
- New innovations using Solar Energy
- Recreation center & Toilet construction work
- Donation of masks to COVID center

A] Rice Dehusking Machine

Rice dehusking machine for making brown rice is developed by Vigyan Ashram. We have partnered with M/S Climbers Systems for commercially manufacturing and selling of the machines. So far, Climber System have sold 32 machines. We have applied for testing of Rice dehusking machine at 'Farm Machinery and post-harvest machinery & Equipment testing centre, Coimbatore. This is ICAR (Indian Council of Agriculture Research) authorized institution for testing rice machines. They had tested the machine for its design, grain breakage percentage and verified our claims of output and specifications. We are happy to inform you that, we have received test certificate from them. This will make our machine eligible for supplying through Govt schemes and programs.



B] New Innovations using Solar Energy

We are increasingly using Solar energy on our campus. Net metering, Solar thermal applications, Solar operated freeze, milking machine and many others are installed on campus with the support of Selco foundation.

DIC fellows are working on developing new solar applications from last 18 months. Following are some of the positive results in our technology development efforts.

1. Solar operated air bubbling system for grey water recycling

Aeration is required for recycling of grey water. We have designed a system which can directly run-on Solar energy throughout the day. It's a complete DC system and has higher efficiency. It has 330 W panels connected in parallel, controlled by 12V, 20A charge controller and a small battery of 26Ah and other accessories, it costs Rs.18500/-.

Advantage of the system is that it can be installed in remote location without incurring expenses on providing electric supply on site. Sanket has successfully installed and tested the system.



Air bubbling System

2. Milk condensation using Solar Energy:

Milk condensation is energy consuming process. We are trying to use parabolic solar concentrator to condense milk. Bigger goal is to make Khowa. But short-term goal was to make 'Basundi' on solar energy for Kojagiri celebration. We have designed a stirrer which will operate on solar energy. Our concentrator is very old having efficiency of 14% (against 35% efficiency of new solar concentrator). Still we are able to evaporate 3lits of water from 4 lits of milk in 5 hrs.

Needless to say, our Kojagiri celebration on 30th Oct was using clean and green energy.



3. Solar water filter

We were facing issue with the life of membrane filter candles. We have designed a pre-filter cartridge, which can be fitted before water entered into filter. We have also installed UV filter in the system. Together with this we are able to resolve water filter issues. Now, we are planning to installed similar system in residential school in Pune.

Priyanka is also working on designing portable solar UV filter system. Its initial trials gave promising results.



4. Solar Technology Dissemination:

In collaboration with Selco foundation, we are working on promoting solar technologies. We are planning to implemented solar technologies in a cluster-based approach. It will help us to showcase, maximum impact.

Suhas & team completed field survey & energy audit for 1000 lit capacity milk collection unit at Shri.Bhairavnath dairy Kude Budruk on 13th October. We are working of writing a proposal for feasibility gap funding from SELCO foundation and bank loan.



Meeting with Milk Collection Center

C] On Campus activities and training

i) Recreation center and Toilet construction:

Recreation center fabrication @ ladies' hostel roof top is completed. Girls students have started using the area for common gatherings, cloth drying, indoor games etc. Sanitary napkin incinerator is installed and soon we will be installing cloth washing machine & small cooking station.

The common toilet block work is progressed further with completion of RCC foundation framework, brick wall, rain water harvesting underground tank, RCC roof work has been completed. RCC Slab on toilet was completed on 28th Oct. Due to pandemic, work is little behind

the schedule but we are hoping to finish repairing work by January 2021.



Coconut breaking ceremony for RCC Slab

ii) Agriculture activities on campus – We have few students staying on campus and 6 students coming from nearby villages for practical work.

- We have planted 6 Kg of lucerne grass on @ 4 gunta land. Lucerne grass will help us in increasing share of dicot fodder for goats & cattle feeding.
- Ganesh & team planted spinach in 'NFT hydroponics' system in



Fabrication of planting structure

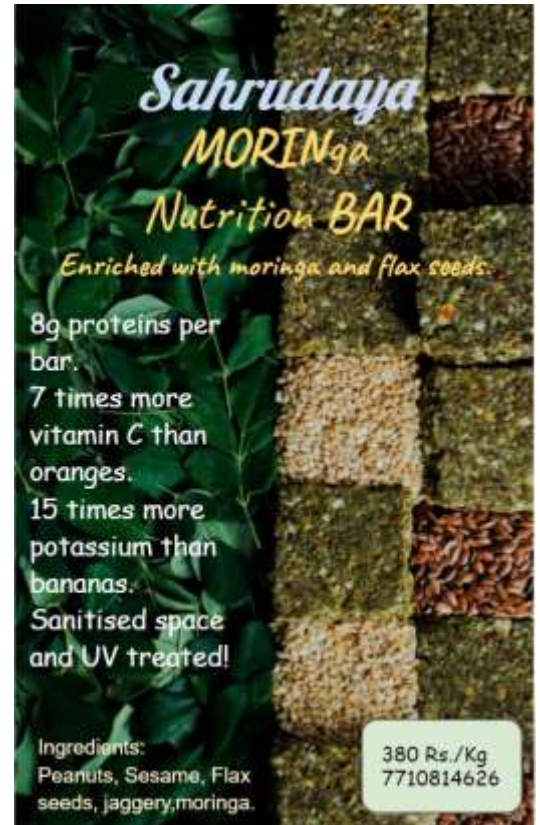
polyhouse. They have also planted capsicum crop (120 plants) in polyhouse as to study its growth with respect to fertilizer dosing & pest-disease.

iii) Food processing:

- Kalyani & Reshma prepared 14 kg of 'moringa & bajara floor based laddoos (sweet balls). Kalyani wish to promote it as 'healthy diwali sweet' through her newly started enterprise. Reshma also prepared 4 kg moringa+ linseed fortified chikki for Sahyadri school (Rajgurunagar) and 6.5kg Chikki for retail sale.

iv) Energy:

- Team of student & instructors installed new power backup & inverter system in soil testing laboratory. Students learnt making of electrical connections, batteries installation, repair & maintenance of system etc while doing this work.
- Students of workshop department, fabricated vertical farming structure. The structure is fabricated for Mr.Ulhas Bhosale, who will be doing vertical plantation of zucchini in his polyhouse. Students earned community service of Rs.6778.00 by doing this work.



DJ DBRT Online Training : DBRT classes are conducted online and students carry out hands-on activities at their home or nearby work bench. Following are some of the highlights of their learning during October month-

- 12 Students at Yusuf Meharali Centre (Panvel) prepared organic pesticide like Dhashparni Ark, Neem Ark while learning common pests & their management in field. They also prepared mortar bricks and plastered the floor of their dormitory. While group of 13 students at Narmadalay school fixed bathroom tiles in their hostel block.
- In Home & Health section, students learnt sugar syrup-based food preservation technique. As a part of hand-on activity, 5 students in Barefoot college prepared Amla candy and individual student Nandini prepared Imli (tamarind) sauce from 2 Kg raw tamarinds.



DBRT Practical's at Work Bench

- Ms Zaineb Ali of Eaton Foundation joined online class on 30th Oct to interact with students.

Details of their learning activity updates can be found on

<https://bit.ly/36gDzAm> (workshop department)

<https://bit.ly/30fnBmb> (Agriculture department),

<https://bit.ly/348AlfJ> (Home & Health department),

<https://bit.ly/2S5rINf> (Electrical department)

E] Entrepreneurship Development Program

- 2nd batch of poultry training concluded with 11 participants. They are completing their assignments & finalizing business plan with their mentors.
- On 29th October, a webinar session was conducted on 'goat farming technology & business opportunities' for 28 participants.
- EDP mentor team visited 6 EDP training beneficiaries as a part of on-field support & hand-holding support.
- We have organized online meeting with UNDP accelerator lab, Development Alternatives and DST SEED Division on 7th Oct to explore collaboration for Technology acceleration (TAP-RISE) proposal submitted to DST.



Visit to Drying unit of Mr.Sujit Londhe

F] Kitchen garden (हरित पोषण घरघरी) in collaboration with STARs Forum

On 6th October, kitchen garden training for 50 MAVIM (Krushi Sakhi) concluded with session on kitchen waste composting & gray water recycling and review of previous sessions. Now participants are implementing learnings in the field & also completing their assignments.

G] 'Become Young Engineer Program' @ DIY Lab Kothrud Pune

Do-It-Yourself (DIY) lab is in Pune and its operations are closed due to COVID. But we are preparing DIY content and conducting online session for students every week.

We are currently conducting a series of session on 'Become Young Engineer Program' for 5th to 10th std. We have received very good response from participants. Total 476 students attended 4 sessions in this month.

SN	Date	Online session	Participants
1	7-Oct	Nutrients in diet and sprouting machine making	116
2	14-Oct	Science and art in making a curd	127
3	21-Oct	Science and recipes for boosting an immunity	118
4	28-Oct	Identification of adulteration in food	115
		Total	476

Students are encouraged to perform hands-on activities & upload their DIY projects through 'google classroom' submissions. Here are some of the highlighted students learning outcome as –

- Sujit Patil and Smita Kulkarni made their first aid kit, prepared curd and alma candy at his home after attending sessions. They had planted ayurvedic plants with nomenclature of their medicinal use & botanical information.



Screen shot of webinar



DIY project done by students at home

- Neha Jeve prepared 1 Kg of Amla candy (moravla) after attending session on ‘immunity boosting recipes’.

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

- Dr.Yogesh Kulkarni presented on ‘**Engineering Challenges for improving Agriculture Productivity**’ in a webinar series- Science-Society-Setu for Aatmanirbhar Bharat (S³4ANB). It was organized by SEED division of Dept of Science and Technology (GOI) on 16th Oct.
- Aquaponics & biofloc fish farming setup: Due to some technical issues in aquaponics project at Chikhali IBT school, it is decided to keep it on hold. Tilapia (2000) & koi (600) fish from Chikhali IBT schools were shifted to Pabal.
At Pabal new seeds of Koi fish were introduced in aquaponics farming, but due very heavy seed mortality, trial was discontinued. We have planned to consult subject matter expert for koi farming & continue trials.
- ‘**Kitchen waste based urban farming**’ project : A new demonstration site is started at DIY Lab, Kothrud office. This site will also maintain production data for promoting urban farming business model. During October Tejas & Amol started work of erecting support structure, filling grow bags, installing drip irrigation system etc. Our DBRT (Batch 2019-20) alumni Soham Bodhe will work on collection of data, kitchen waste collection & composting for this site.
- Prasad is working on fabrication of grey water recycling system for Mukhai school. He also working on preparing instructional manual. Pooja is also working on designing filter system. Link - <http://vadic.vigyanashram.blog/2020/09/28/1000-liter-modular-grey-water-system/>
- Sonal prepared composting bed at farmers field at Zodakwadi (Pabal), Ekerimala (Pabal), Dawadi, Karandi, Morachi Chincholi and Loni village. She is conducting ‘agro-waste’ composting trails under ‘WOS-B’ fellowship project work. Around 10 to 12 tons of agro-waste were processed while maintaining C:N ration & microbial consortium.

Details on their project are available on <http://vadic.vigyanashram.blog/members-and-projects/>



Urban Farming @ DIY, Lab Pune



Preparing culture @ farm of Mr. Anil Jadhav



Compost bed on farm of Mr. Manik Khase

I] ‘Heroes of the month’ enterprise success story

- Mrs. Pratibha Mukhekar: Mrs. Pratibha, (food technology EDP batch May-June 2020 student) started ‘Shri Ganesh food’ a food processing venture. She has started manufacturing Thalipit bhajani, Nachanisatv with and without sugar/jaggary, Upvas bhajani, Chakali bhajani, Anarase and its ready to make the material.

ORDER NOW-9028840693
ORDER NOW-9973331018

Shree Ganesh Food's

Home Made		
- Thalipeeth bhajani.....	40/-	200gm
- Ragi satva (without sugar / jaggary).....	42/-	200gm
- Ragi satva (with sugar / jaggary).....	46/-	200gm
- Khamang chakali bhajani.....	55/-	200gm
- Upvas bhajani.....	87/-	200gm

[No Colour , No Additives , No preservatives
Easy to digest - 100% Natural.]

•Customize order accepted.

We are providing her marketing linkage & technology adoption support.

- Dhanjay Kadam: Dhanjay Kadam (DBRT Batch 2018-19) started his poultry farm @ Malgaon, Tal-Koregaon, Dist- Satara. Dhanjay was searching for job but stayed back in his village during lockdown for helping his family in agricultural activities. He is getting hand-holding support in EDP program and wish to adopt 'domestic egg incubator' technology in future.

JJ IBT schools online training & classes: We have conducted 10 sessions for students and instructors during the month of October. Topics discussed were silage making, basics of RCC construction, importance of personal hygiene, importance of sprouts in diet, maintenance of lead acid battery etc. These sessions were attended by 584 participants from 20 + IBT Schools. School instructors & students are encouraged to demonstrate their learnings through community service activities after each session. Following are some of the highlight of activities done by students -

- The IBT students of Nande village (Pune) prepared UV disinfection torch for their school use. Cost incurred is Rs.800 and they are offering selling price of Rs.1000 / cabinet.
- Students of Moi, Nande and Marunji Schools fabricated a Sodium hypochlorite (NaOCl) making jar in their school using electrode and salt-based solution.
- IBT instructor & students in Amboli (Pune) schools fabricated poultry cage of housing 20 poultry birds (Cost Rs.5000/-) for backyard poultry farming.
- IBT student Komal Palav, Shree Devi Shantadurga Highschool, Vadachapat installed drip system in nursery of 6 acre area at her home along with her family members.



Poultry cage for chicken

KJ Wikipedia work update-

Wiki team had completed followings tasks during October -

- Scanning work completed for 40 books comprising 2027 pages from 'Tarun Bharat' publications.
- OCR conversion work completed for [संतवचनामृत](#), [रामदासवचनामृत](#), [ज्ञानेश्वरवचनामृत](#), [भारता'साठी](#) books.
- New 110 *Abhang Sant Ramdas* were uploaded on Wikisource and 4 new Marathi articles as [बेकरी](#), [रुद्राक्ष](#), [बाली \(बेट\)](#), [मुरलीकांत पेटकर](#) were completed and uploaded on Wikipedia.
- Proof reading work for 350 pages of Ranade dictionary completed. (link -[Ranade dic Proofread](#))

LJ Other tit-bit –

- i) Mask distribution : We have requested 2000 masks under COVID KAWACH scheme of DST. We have donated 1000, N-95 masks with provision for swab collection to COVID center at Manchar. Other regular 1000 ,N-95 masks were given to sanitation workers at Bhor and Rajgurunagar, Anganwadi workers in



Shirur blocks and Pune city.

- ii) Janaki Devi Bajaj CSR representatives Ms. Poonam Vajapai and Sanjay Pirangute visited Vigyan Ashram on 22nd Oct 2020. We are exploring application of VA technologies and training program in Bajaj CSR activities in Khed Zone.
- iii) Mahendra Sawant (Entrepreneurship Development Program- Project coordinator) resigned from his position to start his own solar enterprise. He is relieved from 30th October, we wish him best luck for his future endeavours.
- iv) Bhanudas attended 3 days training program on 'Advanced goat farming practices'
- v) Donation: We are thankful to Dr.Ramkrishna Sonde for their donations for Vigyan ashram work.
- vi) Weather record – Rainfall of the month -154.62 mm (Total – 665.34 mm), Max temp-39.00 °C, Min Temp –18.00 °C , Humidity – 91 % , Water height in well – 4.50 Mtr.
- vii) Energy consumption record- Electricity unit – III Phase -1260 units, I Phase Export- 213 units, Import- 581 units. DG used – 04.15 Hrs. Quality of power: Number of interruptions :70 , Normal voltage : 84.35%, No supply : 4.95 % , low voltage :10.70 % , No data: 0%
- viii) Animal Husbandry section update – Milk production – 412.5 Kg , Goat- Weight gain NA , Poultry Egg production – 114 dozens (FCR – 2.17)
- ix) Biogas consumption – Dung used-621kg, Gas produced- 31.8 M³, Two wheeler record– NA
- x) www.dsttara.org – 1046 (New visitor –1012 Repeated- 134), www.vigyanashram.com –1150 (New visitor – 893 Repeated-257)



Visit of Bajaj CSR team

K] Data Report: shorturl.at/bsGS8

(Work of VA is supported by Asha for Education, Praj foundation, EATON Foundation, L & T infotech, SPA Education Foundation, Megger (I) Pvt Ltd, SELCO India foundation, INDUSA Endowment, Govt of Chhattisgarh, Savitribai Phule Pune University, Suzlon foundation, Dept of Science & Technology, and many individuals and foundations)

Photo Gallery:



Workshop : Repairing of VA gate



Kojagiri celebration on campus

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www.vigyanashram.com