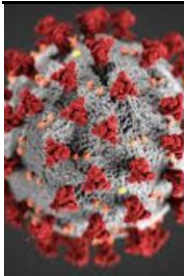


Vigyan Ashram Status Report

Volume 38 Issue 09

September 2020

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Vigyan Ashram in Action # Under Lockdown

- Urban Farming using kitchen waste Composting
- DIY Lab Pune 'Become Young Engineer' program
- Biofloc fish farming setup is installed at ashram
- Animal husbandry dept is blossoming
- FabX award of 'Brothers Sewing Machine' received

A] Urban Farming using kitchen waste Composting

We have initiated a project to do urban farming and decided to develop few demonstration scale systems. We are trying to develop a business model for young entrepreneur. This project is done in collaboration with Marathi Vidyan Parishad and under mentorship of Dr.J.B.Joshi and Dr.Sonde. Several rounds of discussion took place in this month and it is decided to setup demonstration site at Pabal and at DIY lab. Two interns (Kalyani and Soham) will work on the project. A project operation plan was finalized and work for site preparation has started. Terrace Farming on 500 Sq. ft. at vigyan Ashram is growing well and first harvest of Spinach and Lettuce was done.



Terracefarming @ Boys hostel terrace

B] Technology Dissemination through IBT schools

All schools are closed due to COVID pandemic. Vigyan Ashram is conducting online training for IBT instructors on various COVID related technologies. Many IBT schools are using their workshop facilities to provide community services in the challenging times. Following are some of the examples:

- IBT instructors from Lohara Ashramshala (Dist- Jalgaon) provided community service of Rs. 1,05,800/- during covid-19 pandemic period. They sold foot operated hand-wash dispenser (45), foot operated wash basin (14) and mobile hand washing stands (30) during lockdown period.
- Amboli's school's main gate was collapsed due to cyclone in the month of July 2020. Many stray animals started grazing inside the compound and eating planted trees. Hence IBT instructor and few students repaired the gate using welding machines and tools available in IBT section.
- Nande IBT school students prepared PVC pipe stand for vertical plant cultivation.

- Dhamari IBT school student of 8th class Sanket Dafal has replaced old hinges with new one by using IBT skills and earn Rs.150.
- IBT instructor of Chikhali prepared ultra-violet disinfection box for disinfecting mobile, wallets, purse etc. for school staff.



Repairing gate @ Amboli school



Lohara school – Fabrication of washing stand



UV disinfection box @ chikhali school



Community school @ Dhamari school

C] DIY Lab Pune ‘Become Young Engineer’ program

Do-It-Yourself (DIY) lab has launched a webinar series ‘Become Young Engineer’. This online series is for students of class 5th to 10th std. It is an online training program with D-I—Y activities, students can do it at home. Program is conducted on zoom platform as well broadcasted on youtube and facebook. In the month of Sept, following sessions were conducted.

| Sr. No. | Name of the session | Participants |
|---------|---|--------------|
| 1 | Using mobile as a Laboratory tool : Part I | 151 |
| 2 | Using mobile as a Laboratory tool : Part II | 116 |
| 3 | Learn basic electronics and make your own projects using Tinker cad | 110 |
| 4 | Make a mobile game using Scratch | 131 |
| 5 | Become plant doctor | 124 |
| | Total Participants | 632 |

| | | |
|---|---|---|
| <p>मोबाईल मधील प्रयोगशाळा भाग 1 - मोजा ध्वनि प्रदूषण, वायु प्रदूषण, तापमान-आद्रता आणि पावसाचा अंदाज.</p> <p>२ सप्टेंबर २०२०</p> | <p>मोबाईल मधील प्रयोगशाळा भाग 2- तरांगण पाहणे, प्रकाशाची तीव्रता मोजणे, आपल्या घराचे अक्षांश आणि रेखांश स्थान शोधणे, 3D नकाशा.</p> <p>९ सप्टेंबर २०२०</p> | <p>इलेक्ट्रॉनिक्स शिका व आपले प्रकल्प बनवा.</p> <p>१६ सप्टेंबर २०२०</p> |
|---|---|---|

वेळापत्रक | २०२०
युवा अभियंते बनण्यासाठी!



संपर्क - 9284332376 | 9022582662
diy.vigyanashram@gmail.com

नावनोंदणीसाठी खालील लिंक वर क्लिक करा किंवा वरील नंबरला व्हाट्सअप करा.

| | | | |
|---|---|--|---|
| <p>तुम्हीही मोबाईल वापरून गेम तयार करायला शिका.</p> <p>२३ सप्टेंबर २०२०</p> | <p>झाडांचा कलम करा.</p> <p>३० सप्टेंबर २०२०</p> | <p>कड धान्यांना मोड कसे येतता? आणि मोड लवकर व चांगले आपण्यासाठी मशिन तयार करा.</p> <p>७ ऑक्टोबर २०२०</p> | <p>दही तयार करण्याचे शास्त्र आणि अधिक चांगले दही कसे तयार करावे.</p> <p>१४ ऑक्टोबर २०२०</p> |
| <p>रोगप्रतिकारक शक्ती वाढवण्यासाठी विविध खाद्यपदार्थ तयार करणे .</p> <p>२१ ऑक्टोबर २०२०</p> | <p>चला अन्न पदार्थांमधील भेसळ ओळखू</p> <p>२८ ऑक्टोबर २०२०</p> | <p>सॅन्ड्रिय परस बाग</p> <p>४ नोव्हेंबर २०२०</p> | <p>प्रथमोपचार म्हणजे काय? घरीच प्रथमोपचार पेट्टी तयार करा.</p> <p>११ नोव्हेंबर २०२०</p> |

D] Online training programs

Entrepreneurship Development Program (EDP) -

EDP dept is actively conducting online training and mentorship for youth. We have started on site visit and started inviting students on campus for discussing their business plan. Total 12 enterprises are established and supported for business mentoring till 30th Sep 2020.

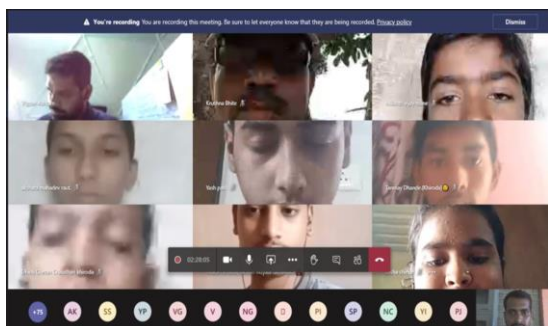
Following is update about EDP training :

| Sr. No. | Topic | No. of Participants |
|---------|--|---------------------|
| 1 | Food Processing Entrepreneurship Training- concluded | 12 |
| 2 | Solar Entrepreneurship Training- concluded | 12 |
| 3 | Photography | 2 |
| | Total | 26 |

- EDP need assessment survey: EDP team started conducting need assessment survey of rural youth from Shirur, Ambegaon and Khed tahsil of Pune district. 320 individuals participated in this online survey so far (30th Oct) to convey their interest & resource availability for self-employment in their local area. Based on need new EDP programs will designed in the coming days.
- Ms Akshada Lanjekar completed 4 days hands-on training program on 'basics of aquaponics & hydroponics farming' during 3rd to 5th September. Ms.Akshada is a student of 'online aquaponics farming' training program. She is establishing 'aquaponics' farm at Murbad- Shirgaon MIDC on 3000 Sq ft area. We are providing technical support to her. Ranajeet & Tejas visited to Murbad on 12th September for providing fish tank installation, air blower & water circulation structure.
- We have provided technical guidance and content for chikki manufacturing and custard apple pulp manufacturing business to tribal farmer's initiative supported by Naramada Bachao Andolan volunteers. They wish to start pulp making activity at Dhadgaon (Nandurbar). They have started making chikki as food supplement for Jeevanshala students.

E] Introduction to Basic Technology (IBT) in schools

We are conducting weekly online sessions for IBT schools. LTI volunteers conducted session for IBT students, parents and teachers on 'Cyber Security' on 4th Sept. Total 273 participants from 15 schools attended the training. Other IBT sessions are as follows:



Session on cyber security

| IBT Session Online | | | | |
|--------------------|--------|--|---------------------|----------------|
| Sr. No. | Date | Topic | No. of Participants | No. of schools |
| 1 | 11-Sep | Bill, estimate and quotation | 138 | 16 |
| 2 | 11-Sep | Milk adulteration identification using lactometer test | | 16 |
| 3 | 18-Sep | Plumbing | 105 | 12 |
| 4 | 25-Sep | Food preservation | 110 | 13 |
| 5 | 25-Sep | Dehydration | | 13 |
| | | Total | 626 | |

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

First batch of kitchen garden training program was concluded on 15th September. Total 45 participants from 9 organization & individual participants completed 3-month duration training. Participants will be assessed based on assignment submissions & actual on-field kitchen garden photographs.

Training of 50 'Krushi Sakhi's' of MAVIM, is at final stage. During September, session on 'indigenous varieties seed bank' (by Mr.Sanjay Patil BAIF, Pune) and 'Bio-waste & Grey water recycling' was conducted on 2nd & 16th September respectively.

G] 'Heroes of the month' enterprise success story

Mrs.Manisha Kolpakar: Mrs.Manisha is food technology EDP (Batch 2 August-2020) batch students. She has started manufacturing pickle making and sandge (traditional gruel like recipe made from pulses & spices). Manisha has applied for FSSAI registration for marketing on large scale.

Yogesh Kale: started his 'Shivneri Electricals Shop' at Bori (Tal- Junner, Dist- Pune). Yogesh is our DBRT alumni & also participated in EDP training program. He was working in Pune industrial area a contract laborer and lost his job due to COVID lockdown.



H] Design Innovation Centre (DIC)

i) Biofloc Fish farming : Biofloc farming is a technique to grow fish in artificial tank. We wanted to learn this technique. Tejas & Vaibhav installed a 'biofloc fish farming' setup with 10000 lit (circular HDPE) fish tank. Objective is to learn biofloc fish farming technique while collecting data on various aspects like water quality parameters, fish growth, microbial culture requirement, economics etc. We also wish to experiment with use of solar powered air blower & water heaters in biofloc farming technology.

During the month of September a basic setup is completed & experiment was started with stocking

density of with mono-sex tilapia (54 Kg)+ 5 Kg Vietnamese Koi (*Anabus cobyus*) mixed farming.

Tejas has started experiment to test effect of fermented azolla feeding on fish growth. His trials does not showed positive impact on weight growth of tilapia fish.



ii) **Projects in progress** : DIC students and Selco supported fellows are working on various technology development projects. Here are the snap-shots.



Sanket is working designing khowa kettle' for making khowa and basundi on Solar Concentrator.



Priyanka is exploring use of Azolla to make Jeevamrut.



Sonal under WOS-B project prepared compost bed at farmers location.



Suhas has successfully completed water level controller system. It is working satisfactorily at three installations. Now it will be launched as a product.

- Amol completed fabrication of 'thermal grain disinfector' and conducted trial with 40 kg raw rice as functionality test. Trial was satisfactory, we are planning to conduct field trial on wheat or any other cereal crop.

I] Fab School project @ Mukhai School

Following are some of the updates of 'fab school' project :

- Prasad Patil completed a CAD design of '1000 lit capacity grey water recycling system' in SOLIDWORKS. The system is designed in modular form for easier installation & operations. The system will be fabricated & installed at Mukhai schools & design files WILL BE made available on 'open source' platform.
- Maker lab at Mukhai : Pooja conducted four online sessions during September for 9th class students. Students learnt technologies of designing a simple machine, bicycle maintenance, waste water recycling, solar thermal application.



J] DBRT online course & Pabal Campus update

DBRT 2020-21 students, attended 18 sessions (50 Hrs) through online training mode. They learnt & home practiced skills of basic carpentry, electrical wiring (through virtual learning software), calculating calories & preparing healthy recipe during the month of September. Students are doing practical's at home or at work benches. Following are some of the highlights:

- Workshop: Students at Narmadalaya (Dist- Khargone, MP) fabricated MS stool. Ms.Nandini Narvade & Dinesh Wagh tried to make stool from wooden material.
- Agri: Pravin Kamble prepared 10 lit of 'Jivamrut' for using it in his home garden.
- Home & Health section: Nandini calculated calory requirement of her family and prepared 'healthy kichadi' by using pulses & vegetable mix. She also prepared 2 Kg 'tamarind candy' while learning basics of 'suger syrup' preservation.
- Energy & Environment session: Students learnt basic of electronics through 'Tinkercad' (<https://www.tinkercad.com>), an open source 3D modulation & designing software. All students enjoyed application of 3D modelling in day to day learning activity and application of smart-phone technology in learning.
- **Soft skills Development:** All students were divided into 7 groups. Each group were given famous inspirational Bollywood movies. They saw the movie, discussed among the group and presented their learnings as 'group activity'.



Doing carpentry work at home

Students 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)

K] On campus

- Goat farm: 5 new goat kid (2 male + 3 female) are born this month. Now we have 21 goats of 4 breeds at our farm.
- Poultry: We have purchased 45 chicks of 'kaveri' breed and added it to poultry farm. These chicks are brought for conducting experiment of 'azolla' as feed and collecting data on percentage of azolla feeding in relation with net weight gain.
- Electrical: Team of three students & instructor completed electrical fitting work of newly constructed ladies hostel recreation centre. Total value of repair and maintenance work was of Rs.15396/-.
- Workshop department: Team fabricated 3 units of foot operated hand-wash dispenser units. They also fabricated a gate & feeding manger (trough) in cow shed.
- Home & Health department: Reshma did test marketing of moringa chikki (4 Kg) and Bajara laddu (1 Kg). She also conducted 5 days training on 'cake making' for local SHG members.
- Soil testing lab : Total community service = Rs.5620/-/
Soil report (27) =Rs.4050/-, Dry azolla sale =Rs.1250/-, Fresh azolla= Rs.320/-



L] Wikipedia publication and sewing lab update

Wiki team worked on following articles as –

- Komal completed scanning of new books for 7 books of Rajgurunagar library & 27 from Tarun Bharat library.
- Pooja & Komal participated in Wiki Loves Monuments (WLM) Photography Event and uploaded 55 photos on wiki commons.
- New articles published - [गांडूळपालन](#), [गांडूळ खत](#), [सॅद्रिय शेती](#)
- Proof reading work of 400 pages completed for 'Ranade Marathi dictionary' (link -[रानडे इंग्रजी-मराठी शब्दकोश खंड पहिला \(The Twentieth century English-Marathi Dictionary Volume 1\)](#))
- Uploaded 77 new Abhang on Wikibooks.

Sewing lab update-

- Apurva conducted Toys making using waste cloth session for 8 girl students from Pabal. Together they made 16 toys.
- We have purchased USHA embroidery machine software and installed it.
- We have received Brother sewing machine. We got it as an award in Fab Challenge competition held during Fabx conference.



M] Other tit-bit –

- i) Pabal & nearby 5 villages observed 'local lockdown' during 17th September to 1st October. All transport & business activities were completely closed. We at VA also halted all staff & students' movement. Three of our colleagues tested COVID positive but recovered and joined duty after treatment.
- ii) VA's response during COVID Pandemic was published in - Indian Multiversity's alliance newsletter https://mailchi.mp/bacec2394203/indianmultiversitiesalliance_september2020
- iii) Donation : We are thankful to Dr.Sonde, Cynthia & Walter Graham for their support.
- iv) Suhas and Mahendra attended The Social Economic World Forum annual event from 21st of September 2020 - 25th of September 2020.
- v) Weather record – Rainfall of the month -118.89 mm (Total – 510.72mm) ,Max temp-37.00 °C, Min Temp –20.00 °C , Humidity – 92 % , Water height in well – 6.50 Mtr.
- vi) Energy consumption record- Electricity unit – III Phase -1316 units , I Phase Export- 213 units, Import- 581 units. DG used – 01.00 Hrs. Quality of power : Number of interruptions :69 , Normal voltage : 83.55%, No supply : 6.20 % , low voltage : 10.25 % , No data: 0%
- vii) Animal Husbandry section update – Milk production – 450.7 Kg , Goat- Weight gain NA , Poultry Egg production – 93.58 dozens (FCR – 2.58)
- viii) Biogas consumption – Dung used- 622 Kg, Gas produced- 31.8 M³, Two wheeler record– NA
- ix) www.dsttara.org – 1046 (New visitor –1012 Repeated- 134) , www.vigyanashram.com –1150 (New visitor – 893 Repeated-257)

N] Data Report: shorturl.at/acRV8

(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, INDUSIA Endowment, Govt of Chhattisgarh, Savitribai Phule Pune University, Suzlon foundation, Dept of Science & Technology, and many individuals and foundations)

Photo Gallery:



Vermi compost bed on farmers field at Shirur



Pooja got Brothers Sewing machine as an Award in FabX



Asha for Education supported Toilet construction status



Lohara IBT school : Sanitizer stand



Trials of Khava maker machine



Work in progress : Ladies recreation room



Solar fan for street vendor



Training on plasma cutting machine

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www.vigyanashram.com ; <http://vigyanashram.online/>