

Vigyan Ashram Status Report

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A] FAN5 in Seoul, South Korea.

Dr.Yogesh was invited to give key note address on 'Aligning Fab Labs operation with Sustainable Development Goals' at Fab Asia Network conference in Seoul, south Korea. Yogesh participated in the conference from 6th – 11th May.

It was good opportunity to interact with Makers from Asian countries. Yogesh attended various workshop on Bio lab, mould making etc. He also visited Fab Labs in Seoul and Appropriate technology development center.



Learning mould making @ FAN5

B] Mahua flowers processing training

Mahua flowers processing training was conducted for 13 women SHG members from ECOVAN SELF RELAIANT WOMEN FARMERS PRODUCER COMPANY LIMITED – KURKHEDA (Gadchiroli) during 6th to 11th May. Participants learnt to make various products of Mahua viz. Mahua Laddoo, Mahua chikki, Mahua ready mix along with its

business plan. They were introduced to basics of food processing technologies. They also visited brown rice making unit and Nachani Laddoo making unit, Hirada processing unit established in Bhimashankar. This training was conducted in collaboration with Gadchiroli district MSRLM department. MSRLM will support this group to establish 'Mahua



processing unit'. We have developed various Mahua recipes for this group in the preparation of training and got it approved from the district officials.

C] Water Crises and benefits of Grey water Recycling

We had very bad summer this year due to severe drought. There was acute water shortage and we are purchasing water through tankers. But water from wells around Pabal Village were exhausted. There was shortage of water tankers as well. We had purchased 10 trips of water tankers (approx.1,30,000 lit) during month of May. We have postponed IBT training program during May due to water shortage.

Grey water recycling – Grey water recycling system is established through Bajaj CSR support. It is made functional with red beds with canna (*Canna indica*) plants. It has siphon based water circulation, air bubbler and storage capacity of 3800 Lit. A fifty-percentage light penetration quality of shed-net is used to cover fodder plot to avoid evaporation losses and increase irrigation efficiency. We are also recording water quality parameters like COD (Chemical oxygen Demand), PH, DO levels to check filtration / purification efficiency of system. The system is working satisfactorily.



We have received approx. 500 Lit of recycled water per day from the system. It was used for fodder cultivation and watering of plants. Recycled water is also in demand for watering of plants.

Dr. Shaligram (Head, DIC, SPPU) along with team visited VA on 26th May to study grey water system on campus.

D] 'Modernization of agriculture training centre project' (BAJAJ CSR) :

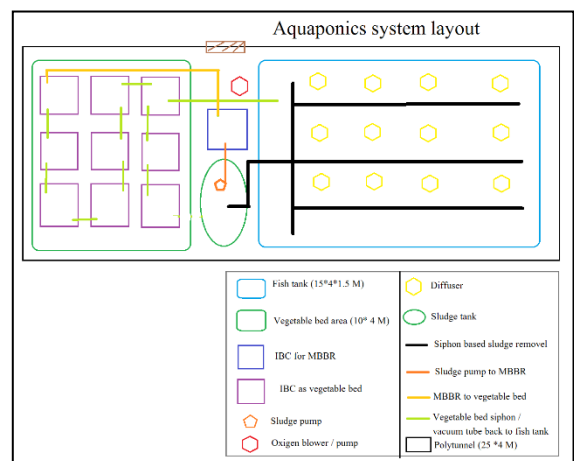
We are going slow with the development work due to drought condition. We are working on activities which can be done without water.

- Polyhouse construction- Erection of all 14 traces are completed, 7 brass of FYM and 10 brass of red lateritic soil purchased and spread in the polyhouse for making beds.
- Tissue culture lab- Tissue culture lab layout and list of necessary instruments is finalized. We will be starting lab interior modification work from June.

E] Technology Development & DIC Progress :

i) Installation of rice de-husking machine @ Sahyadri School was done on 16th May. Krishnamurthy Foundation is supporting a farmer's producer company (FPT) to grow indigenous rice varieties and adopt organic farming.

ii) Aquaponics updates: We are rebuilding aquaponics farming system at Pabal Campus. New system will have bigger fish tank (50000 lit), sludge tank (7000 lit) and vegetable bed made from used IBC tanks.



Aquaponics System layout

System will be covered with polytunnel to avoid evaporation losses. We are expecting cost involvement of around Rs.2,00,000/- for this system.

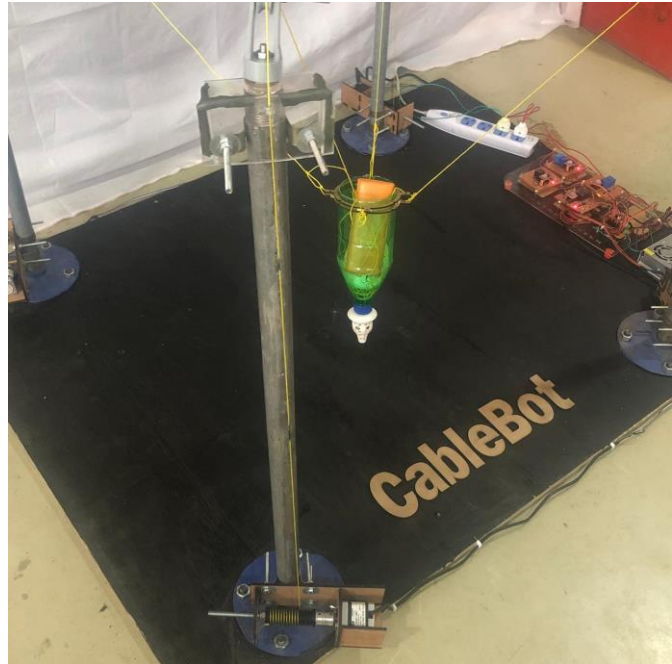
iii) Agrowon article (Gramin Udyojak) – Following success stories of our alumni entrepreneur got published in agricultural daily Agrowon.

Mr.Raosaheb Jadhav (6th May) – Polyhouse construction.

Mr.Avinash Gargote (20thMay)- Progressive farmer - 'onion seed production & pomegranate farming'

iv) Sonal presented proposal “Development of Microbial Consortium for Improving Soil Organic Carbon using Agriculture Waste.” for DSTs Women Scientist scheme evaluation meeting at Tirupati, Andhra Pradesh on 1st May, 2019.

v) **Fab Academy : Make a Machine assignment :** Fab academy students made Cable bot machine for seeding and watering purpose in the farms



Make a Machine : Cable Bot

based on Skycam mechanism in stadiums and presented it in global lecture on 22nd May 2019.

Details about machine available here:

<http://fabacademy.org/2019/labs/vigyanashram/machine/mam.html>

vi) Two school students completed their fab lab training for one month. Their project video link is here:

<https://www.youtube.com/watch?v=24EFu2v7SZw>

vii) We have participated in PMC Expo on wet waste management at Sambhaji Garden, Pune on 3rd, 4th and 5th May. We have displayed all our composting technologies.

viii) Pompom (गोंडा) Making Machine : Fabrik academy student Ms Harshada made this machine using fab lab. Market price of the machine is \$4500 and it was made in less than Rs.3000.

Documentation link :- <https://class.textile-academy.org/2019/harshada.raut/assignments/week08/#8-open-source-hardware-from-fibers-to-fabric>

Video of machine :- <https://vimeo.com/337019760>

ix) DIC examination was conducted on 30th May.

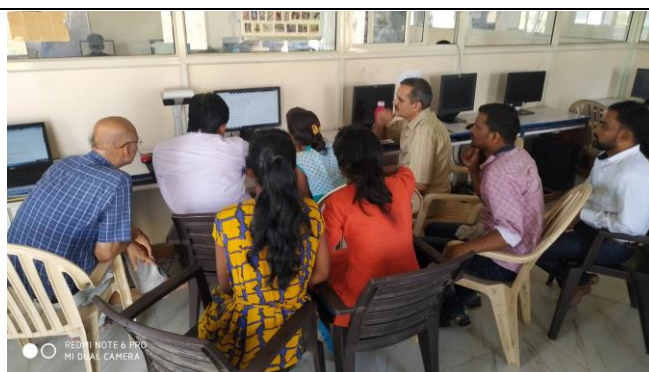
F] DBRT News :

i) Wiki Source workshop was conducted on 25th and 26th May at Pabal. 35 students attended introductory workshop for one day and 17 students underwent advanced training for 2 days.

Mr.Subodh Kulkarni and Mr.Jayanta Nath from Centre for Internet & Society-Access to Knowledge Programme conducted the workshop. In the workshop students learn proofreading activity on Wikisource. They were also learned advanced skills for scanning and further processing.



DBRT Exam



Wiki Training

- ii) NIOS Final board exam of DBRT batch 2017-18 was held from 14th – 17th May. Total 39 students (out of 54 enrolled) appeared for the examination.
- iii) DBRT and DIC students visited JSW-MI steel, Khed city (SEZ) on 17th May as their study tour.
- iv) **Composter Manufacturing:** DIC team finalized design for individual composter. It can process 1.5kg kitchen waste per day and suitable for small families. Cost of unit is approx.Rs.2000/-. We are receiving good response from customer. DBRT students has taken manufacturing of 20 units under contract.
- v) We have participated in the educational exhibition organised by Marathi Vidnyan Parishad on 10th,11th and 12th May. We have promoted information about DBRT and DIC courses for the academic year 2019-20.
- vi) We have placed 19 students with various entrepreneurs for one-month internship in the month of May. They were placed in the work of their choice.
- vii) Ms Komal Shambhuas got selected for Wikipedia 'Train the Trainer 2019' workshop. She had participated in the workshop from 31st May to 2nd June at Visakhapatnam, Andhra Pradesh.



Family composter

G] IBT Update :

- i) Team is busy preparing content for next academic year. Different posters on curricular topics are made.
- ii) Mahendra visited Chinchwad IBT program and guided them in plantation of tomato plot.

iii) Educational videos made by VA in collaboration with Centre For Distance Engineering Education Programme, IIT Bombay are now available on IIT,Bombay website. :
http://www.cdeep.iitb.ac.in/vigyan_ashram.php

H] DIY Lab and Fab Academy Progress :

- i) Training of para-teachers of PMC waste collectors association was conducted on 13th and 14th May at DIY Lab. They were taught activities like LED torch, use of solar cooker and pressure cooker, costing etc.
- ii) Following Summer Training camps were held at DIY Lab in the month of May.

Solar Special Gadgets Making Workshop	8 th to 11 th May 2019	15 students
Learn, Make & Fly Workshop	17 th May 2019	19 students
Astronomy Workshop	20 th May 2019	9 students
Paper Craft with T-Shirt Printing Workshop	22 nd May 2019	6 students



Highlights of DIY - Summer Camp

iii) Please visit below links to see progress at DIY Lab :
<http://vigyanashramredx.wordpress.com> ; <https://diymakerspace.wordpress.com/events/>

I] Other tit-bits :

- i) Mr.Vilas Shinde (MD, Sahyadri farms, Nasik) along with team from DISQ and Tata Strive visited VA on 25th June. We had long discussion till late night and explored many areas of collaboration.



Meeting till late night with Sahyadri Farm Team, Tata Strive and DSIQ

ii) Dr.Yogesh is appointed by DST as Local Project Monitoring Committee (LPMC) member for the Science & Technology Hub at Dr. Babasaheb Ambedkar Marathwada University (BAMU), Aurangabad. He attended first LPMC meeting on 24 May 2019.

iii) A interviews were conducted for the post of Instructor, research fellowship, field officers, educational officer on 13th & 16th May. A recruitment advertisement was published in Sakal newspaper on 9th May.

iv) Weather record – Rainfall – 00 mm : Total this year - 350mm (June to Feb) ,Max temp- 39 °C, Min Temp – 23°C , Humidity – 46 % , Water height in well – 8.2 mtr.

v) Energy consumption record- Electricity unit – III Phase- 1314 unit, I Phase- Export 266 unit ; Import 1016 unit, Generation 486 unit.

vi) Quality of power: Number of interruptions: 149 , No power: 99.26 hrs. Normal voltage: 69.97 % , High voltage : 0%, Low voltage : 12.28 % , No supply : 17.74 % , No data : 0 %

vii) Biogas consumption – Dung used- 00 kg, Gas produced- NIL m³

viii) Two-wheeler usage: Running – 541 Km , Petrol – 8 lit Fuel efficiency – XX Km /lit

ix) Online visitors : www.dsttara.org – 1037 (New visitor –894 Repeated- 143)

, www.vigyanashram.com – 1416 (New visitor – 1124 Repeated-292)

, www.vigyanashram.wordpress.com – 685 (Visitor-447 Viewers-238)

Data Report : <https://drive.google.com/open?id=1Mn3Hiro2Jz-02DLhVB7fuRLzHVVMcB-4>

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

Our sites : www.learningwhiledoing.in , www.dsttara.in , www.vigyanashram.blog ,

www.vadic.vigyanashram.blog , <https://ruralstartup.wordpress.com/>

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Photo Gallery :



Vigyan Ashram stall @ PMC Exhibition on wet waste management



Polyhouse construction in progress



Life line .. Learned importance of every Drop of water



Pompom (गोंडा) making machine



Workshop @ DIY Lab for PMC cleanliness workers association



DBRT students : Electrical maintenance