

Date: 01/02/2023

By: Jyoti Gawade.

VA is about 2 hours drive from Pune. Director Yogesh Kulkarni is there on the campus a few days a week and I usually coordinate with him to visit when he is on campus. As usual after having a brief chat with him, I started my tour to see updates on the campus.

The most interesting part of the campus is the finishing school which contains a fablab with all the machines anyone can use to take an idea to a prototype.

Here are the few things I noticed there:

Some experiments using Fiber Reinforced Polymers. FRP can be molded for needed purposes. I have been seeing their composter going through design iterations. This time I saw a metal hexagonal mold being used in the composter.

The Finishing Flooring has been updated. It now has a thicker flooring to withstand the extensive welding that takes place on this floor.

I saw few girls in this section working on their projects. I chatted with them briefly. They are a group of 7 DBRT girls coming from Palghar, Pune and Javhar.

For the wood router machine, students did industrial level wiring. Materials worth 16000. They did wiring for a IBT school nearby as well as the Pabal school.

In my previous visit I had met an DBRT alumni Siddhesh Sakore who now has opened a shop and outsources some work to the students. This year students got challenging work to do.

Some changes that were highlighted by the staff: Students now have 45 days in each section instead of 60 days and they use 15 days for a crash course focused on the subject of their interest. In those 15 days anyone can work on projects in any section.

Machines in the fablab:

Vinyl cutting machines can be used to cut conductive aluminum and copper foil sheets and can be used in electrical circuits.

CNC wood router used for subtractive printing techniques.

3D printer for additive printing techniques

Resin on wood blocks to make them waterproof for outdoor usage.

Pour silicone into the block to make another block.

PCB milling machine: for making a substrate for the PCBs

Saw a Scarecrow model - 2000-2500 Rs making expenses and runs on solar

Mahesh Shinde, a past DIC student, is now helping with the DIC program.

Incinerator work supported by Napate foundation. Used aluminum due to low budget. But it is corroding at high heat, so they need to change it to brass when the budget is available.



Students in Fablab



Fablab Machinery



Students at work



Students in Fablab



Students in Fablab



Scarecrow prototype



Oxygen concentrator works producing expected concentration. But not portable. After the government released industrial oxygen tanks, there wasn't any shortage so did not develop the prototype further. They may be able to use it for waste water recycling.



Batteries for the Solar Power System



Oxygen Concentrator

In the food processing lab, this year's students delivered ~35kg chikki to the international school nearby. They are learning to make Nankatai, pizza, and Pattice in the kitchen food lab.

On average, more than one student per batch starts their own shop right after DBRT and is able to invite more students to work for them.

The Solar electricity installation is generating enough power and pumping some back to the grid. Big fans in the Polyhouse are run on solar power. Solar power generated by the panels on

the finishing school roof is used for cutting, drilling, grinding machines. Welding machine needs higher voltage and is on a different circuit.

There are 2 students from Barefoot college in Rajasthan - 1 girl and 1 boy. They will be going back as instructors.

In the agricultural section I saw a newer Sprouter model that rotates every 15 mins.

Black soldier fly: 100 gm larvae composts 50 kg waste into compost in 10-15 days.

Polyhouse now has cooling pads as well.

Making composting tea as well.

Met with Akshata with 2 other students in the microbiology lab.

Water testing kit with bacteria growing medium for 20\$. Add water to it, if bacteria like e.coli is present, it starts growing and water turns black.



I saw some E-auto - came for testing from IIT Powai. Built by Kawasaki. Charging efficiency, load carrying capacity etc are being tested. They are now used to bring heavy things.





DBRT Girls coming from Palghar (Bhoisar, Javhar) doing contract work for plumbing for the new Agri building. Also partial Brickwork, window grills, electric fitting also done by students.



In the Animal Husbandry Section there was a milking machine prototype on solar power. Poultry has native birds instead of broiler birds or egg laying poultry. Last time the flock was done with eggs laying and was sent to a slaughterhouse.





Milking machine



Poultry



Goats



Cows

1/2 acre new farmland purchased by Yogesh from his personal funds has been leased for minimal price to VA. Raising fodder and onion there. The plot is on a down slope so gray water is recycled there. 140 kg onion was grown on the other farm. There is a pipeline from a nearby dam.

The toilet block built from the Asha donation is being used by the students and augments the toilet capacity for the variable volume of guests visiting every month.





New Farmland



Toilet Block

The recreation center built from one time donation is functional now and during daytime it is used for conducting lessons.



Recreation center

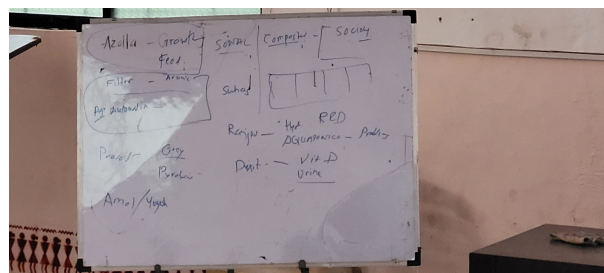


Inside: Used for lessons during the daytime.

When I was on the campus I met instructor/assistant instructor Sumeet (BE, fablab), Subarna (DIC), Purnahwar(workshop), Bhanudas(Agri), Rajabhau (Agri) Karishma, Ghanashyam

Fab academy has 3 admissions till now. I chatted with one of them, who is an engineering student from Switzerland doing an internship and working on polyhouse automation.

After lunch I did another round of the campus alone and got a chance to talk to some of the students as well as instructors. I attended a meeting where Yogesh was discussing the status of the ongoing project with the students.



I also synced up with Yogesh on the overall status. After having afternoon tea, it was time for me to head back. The students had finished their day's work and were enjoying volleyball on a small sports field on the campus. One of the instructors had his birthday that day and they had got a small cake to cut. After the cake cutting, I took off around 6 pm.

