

# Vigyan Ashram Status Report

Volume 41 Issue 07

July 2023

## In this issue

- **DBRT-2023-24 batch joined on 10<sup>th</sup> July**
- **30<sup>th</sup> July 'Open House Exhibition'**
- **Publication of Technology review books on technologies developed by VA**
- **Vigyan Ashram team attended Fab-Conference- 2023 @ Bhutan**

### A] Open House Exhibition 2023:

An Open House Exhibition was organized on 29<sup>th</sup> & 30<sup>th</sup> July on the occasion of 20<sup>th</sup> Anniversary of Vigyan Ashram's founder Dr.S.S.Kalbag. On this occasion, we have displayed work done by VA on various technology projects, educational programs & products of VA entrepreneur alumni were displayed for visitors.

This year's YUVA UDYOJAK award was given to Mr.Vaibhav Konde (DBRT 2006-7). He runs safety hand-gloves manufacturing unit at Khed-Shivapur (Pune). The award was presented at the hands-of Mr.Namdev Lokhande (VA alumni & retired ACP). Dr.Arun Adsool (Chairman, Indian Institute of Education), Mr. Sachin Wabale (Sarpanch, Pabal village) and Mr. Dada Kunjir (owner Kunjir Dairy farms) were chief guest of the program. Some of the key highlights of this year exhibition -

- Technology exhibition on waste management technologies (BSF farming, sanitary pad incinerator, composters), 3D printer applications, E-Vehicle, food processing etc.
- EDP program beneficiaries participated in the exhibition with their innovative food products. The cumulative sales value of their product was Rs.56,410/-.
- 10 IBT schools participated with their students' projects & food products.
- Museum-on-Wheel by Nehru Science Centre & Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (CSMVS) also participated with their Exhibition van.
- Representatives of our partner organisations La-fondation-Dassault systems, Unicef, Eaton India foundation, YCMOU, Jnana Prabodhini, Gram Vikas and many others visited the exhibition.
- More than 3000+ visitors visited the exhibition including Maharashtra times-Heritage Walk Group (Pune), IEEE students, farmers & schools' students. Newspapers gave good coverage of the event.
- We are thankful to all visitors and supporters for their continuous support.



## **B] Welcome DBRT-2023-24 batch students**

'Diploma in Basic Rural Technology (DBRT)' course (2023-24) has started from 10<sup>th</sup> July. We have 54 students including 18 tribal students and 6 girls for this batch. Students will stay on campus for next 1 year to learn various skills in engineering, energy & environment, food processing and agriculture section. From this year, we are also introducing advanced courses viz. CNC machine, home appliance repair, tissue-culture etc.

We are thankful to ASHA for Educations, Eaton Foundation, La-foundation, Mahle Engineering, SPA foundation for providing financial support for DBRT program.



## **C] Fab23 conference@ Bhutan:**

Vigyan ashram team attended Fab-lab conference (FAB23) during 16<sup>th</sup> to 29<sup>th</sup> July at Thimphu, Bhutan. Four members from Vigyan Ashram (Yogesh, Suhas, Prasad, Kishore and Siddharth) had participated in the conference. We have participated and conducted following sessions:

- i) Fab Challenge : Suhas & Siddharth had participated in 'the fab-challenge' from 15<sup>th</sup> to 21<sup>st</sup> July. They worked on different themes with international participants to design solutions to local problem.
- ii) 24<sup>th</sup> July : Workshop on design of Solar Dryer's by Yogesh Kulkarni and Prasad Patil
- iii) 24<sup>th</sup> July : Workshop on designing Solar operated UV water filters by Suhas Labade
- iv) 26<sup>th</sup> July : Talk on '40 years of Vigyan Ashram' in a symposium by Yogesh Kulkarni
- v) 25<sup>th</sup> July : Talk on 'Fab Village : Self-sufficient village' by Yogesh Kulkarni
- vi) 26<sup>th</sup> July : A presentation on Vigyan Ashram's work on Strengthening ATIs by Yogesh Kulkarni at Global Survey of Professional Development for K12 Digital Fabrication Educators
- vii) 27<sup>th</sup> July : Workshop on Kitchen and Agro waste composting by Yogesh Kulkarni
- viii) Kishore Gaikwad and Kiran Waghchoure got their Fab Academy diploma during graduation ceremony. Chetan, Pushkar and Sanjay received their diplomas through online participation. The conference was



attended by 600+ participants from 47 countries. Details of conference, training workshops, fab-challenge results etc available on: <https://fab23.fabevent.org/>

#### D] Entrepreneurship Development Program (EDP) update (VATF):

- Two days training on 'Sliding-window fabrication & Door-lamination' enterprise was conducted on 3<sup>rd</sup> & 4<sup>th</sup> July at Pabal. Training was attended by nine potential entrepreneurs to learn on-site measurements, cutting & joining of tracks, glass cutting, using fibre-reinforced plastic (FRP) resin for door lamination etc. Trainee's learnt these skills while fabricating two windows shutters & a door. VA alumni entrepreneur Mr. Vaibhav Rahane conducted sessions on sliding window while engineering instructor Mr.Laxman Jadhav taught door lamination skills. Marketing & other soft-skill sessions were conducted by Yogesh Onkar & Ganesh Pingle.
- On-field training on 'poultry disease management' was conducted at Sakhar village (Tal-Velha, Pune on 5<sup>th</sup> & 6<sup>th</sup> July. Training was part of 'poultry farming' enterprise creation support to 50 farmers in 9 villages in collaboration with 'Raintree Foundation'. Farmers were facing heavy mortality due to Coryza infection to birds. Dr.Shirsagar (V H Group) guided farmers in control of infection & overall disease management.
- A webinar on 'Pearl farming' was conducted on 8<sup>th</sup> July 2023. Webinar was attended by 52 participants. Webinar introduced participants about natural pearl farming, site selection, spat collection, breeding, grating, harvesting, marketing etc. Dr. Manojkumar Chopda (from KCES'S M.J college, Jalgaon) was resource person for the webinar.
- Yogesh onkar & Mr.Kiran Inamdar visited S.S. fashion (Manchar) & 'Well-Done' marketing (Ale-Phata) on 4<sup>th</sup> July . Visit was part of 'On-field' expert-mentoring support to EDP beneficiaries. (VATF)



Sliding window course trainees

उद्योजकता विकास विभाग  
विज्ञान आश्रम, पाबळ  
आयोजित

## नैसर्गिक मोत्यांची शेती

दिनांक :- 08 जुलै 2023  
वेळ :- सायं. 7 ते 8

Vigyan Ashram  
Startup Sarathi

praj foundation

- मार्गदर्शक -



डॉ. श्री.मनोजकुमार चोपडा  
प्राध्यापक-प्रायोगिक विभाग,  
मूळजी जैठ कालेज, जळगाव

अधिक माहितीसाठी संपर्क:  
योगेश :- 7774073920

## मोफत वेबिनार

zoom Meeting ID : 874 3875 8452  
Password : 11111



startupsarathi@vigyanashram.com  
www.vigyanashram.com  
/Startup Sarathi.va

#### Heros of the month:

**Akshay Khalkar** (DBRT 2017-18) started 'electrician service' at Manchar (Tal- Ambegaon,Pune). He has started his business with four co-workers. They are taking labour & turn-key electrification contracts in Manchar & near-by villages. Akshay has made an investment Rs.35000.00 and started earning of Rs.10000 to 12000 from enterprise.

**Mr. Pratik Jadhav** (Batch 2021-22) started 'Shri Jyotirling fabrication' a metal fabrication enterprise at Ambapwadi (Tal-Hatkangane, Dist.-Kolhapur). He has started this enterprise with his batch-mate Aniruddha Jadhav as working partner.

**Mrs. Puja Kumbhar** started 'Sahil Arts' a home based 'Pottery making' enterprise at At-Somatne Phata, Tal-Maval Dist.-Pune. She is presently making decorative clay lamps (Panati), idols (murti) and other decorative items. Apart from retailing, 'Sahil Art' also focusing on B2B trading & online marketing. We are providing mentoring, digital marketing and enterprise development support to her.



साहिल आर्ट  
आपल्यासाठी घेऊन आले आहे  
खास दिवाळीसाठी  
उत्तम क्वालिटीच्या  
पणत्या ते ही  
होलसेल दरात उपलब्ध

**पणती**  
इंद्रधनुषच्या रंगांनी  
सजविते अंगणी रांगोळी  
ठेवूनी त्यात इयलीशी  
पणती प्रकाशतल्या  
अनेक ज्योती

8796159230 | 9637056054  
फॉर्म नंबर 302, नंदवन सोसायटी, विरगाव रोड, सोमातणे फाटा, तळेगाव दाभाडे, पुणे - 410506

Puja Kumbhar's Sahil Arts

प्रो.पा. प्रतिक जाधव  
9284103006

प्रो.पा. अनिरुद्ध जाधव  
9172632159

**श्री ज्योतिर्लिंग फॅब्रिकेशन**

आमच्याकडे Sliding गेट, जिना ग्रीन, शेटर, सेड, तसेच ळर्व  
प्रकारचे वेल्डिंग कामे व फॅब्रिकेशन कामे केली जाताील.



मु.पो. अंबपवाडी, कोल्हापूर ,416112.

Pratik Jadhav's Fabrication business card

### E] Design Innovation Centre (DIC) & Technology development update:

- Prathmesh, Pritesh & Abhijit completed modifications of 'LPG based sanitary incinerator'. The older version is modified with more robust burners & incineration chamber. Old water-heater based LPG burners was replaced with 'dosa plate' burners. They had also increased diameter of wire-mesh of incinerator chamber while doubling incineration capacity to 150 pads/cycle (earlier it was 60 pad/cycle). After successful lab trials team is planning on-field trials in the coming month.

- Soft – rot disease on Black Soldier Fly (BSF) : 'Soft-rot' disease was observed on BSF and six batches of mature BSF larvae were lost. It was affecting raring cycle. From the research paper review, we found infected feed (old kitchen waste that was sourced from canteens) was the probable reason for larva disease. Corrective actions were taken to control diseases at Pabal campus.

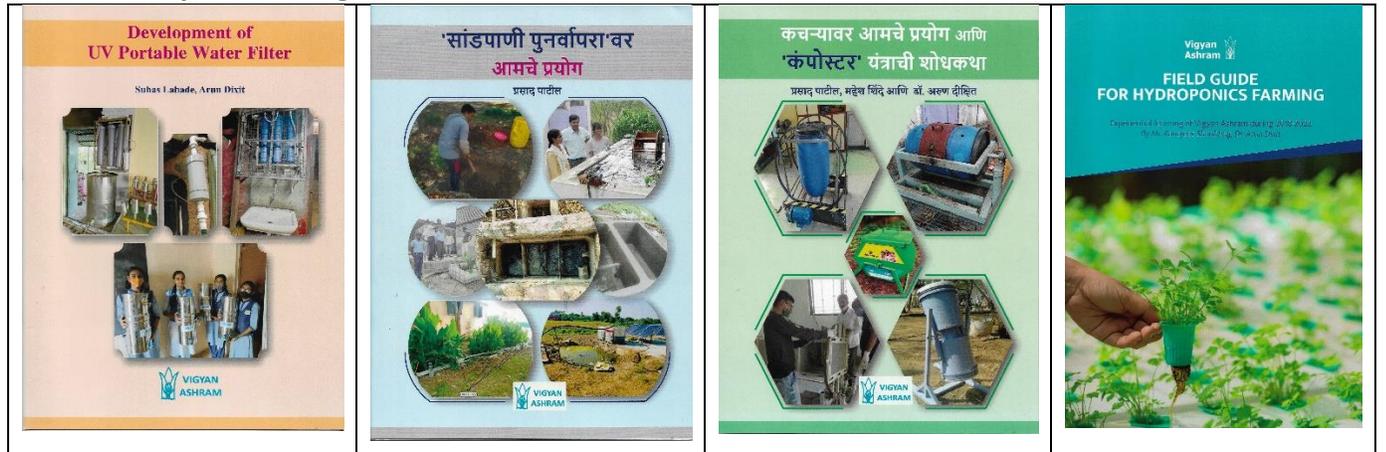
- Soil microbiology lab : Akshada & Ashwini prepared 200 bacto-scope (H2S) strip bottles. They also prepared 25 lit hand-wash and kitchen waste compost culture (75 packets) for sale on 30<sup>th</sup> July exhibition. Ashwini started experimentation on multiplication of Napiergrass by tissue-culture.



Living lab intern Diwakar kumar tested and experimented with Gasifier sytem using wood chips of different sizes at Pabal

Living lab intern Diwakar kumar tested and experimented with Gasifier sytem using wood chips of different sizes at Pabal

- DIC intern Dinesh completed his internship on 17<sup>th</sup> July. He worked on the Polyhouse Automation to maintain temperature and humidity within the polyhouse. We did calculations of CO<sub>2</sub> requirements, exhaust fan runtime and necessary water usage on the pads. According to our calculations, a daily CO<sub>2</sub> requirement is 9.82 kg. To achieve this, the exhaust fan need to run for a minimum of 1.5 hours. In order to sustain humidity levels above 60% during the summer days, 1800 liters of water per day is required on the pads. For more information about the project visit the following link: <https://vadic.vigyanashram.blog/2023/06/12/poly-house-automation-for-ambient-control/>
- DIC intern, Kartik, worked on electric rickshaw and bicycle projects. The battery of an electric rickshaw was repaired by a vendor in Pune; however, due to cell imbalances, the discharging rate was fast. Kartik replaced this battery by borrowing from his college for short time. As a result, we are able to make one rickshaw operational. Another rickshaw has major issues with its motor, control board, and battery equipped with a Battery Management System (BMS). All project details available here : <https://vadic.vigyanashram.blog/author/Kartik-Shingade/>
- Following technology review books were published on 30<sup>th</sup> July.
  - i) कंपोस्ट वरचे आमचे प्रयोग आणि कंपोस्टरची यंत्राची शोधकथा : प्रसाद पाटील , महेश शिंदे , अरुण दीक्षित , अमोल खामकर
  - ii) Development of UV portable water filter : Suhas Labade and Arun Dixit
  - iii) सांडपाणी पुनर्वापरावर आमचे प्रयोग : प्रसाद पाटील
  - iv) Field guide for hydroponics farming : Experimental learning of Vigyan Ashram during 2018-22 : Ranajeet Shanbag



### F] DBRT student learning updates (VATF):

DBRT batch 2023-24, started their training from 11<sup>th</sup> July. First week was introduction to all sections to understand their interest and attitude. Following are some of the highlighted learnings activities during July-

**Agriculture & Animal husbandry section:** During July month, farming activities are badly affected due to lower rainfall (65 % less rainfall than July-2022). Students learnt basic farming practices like making of nursery, soil analysis, seed sowing etc while planting



Plantation in hydroponics system

20 banana plants, 222 plants of Capsicum in polyhouse, 1 kg green-peas on 4 Gunta plot, 15 kg fodder-jawar on 10 Gunta and 15 kg fodder-maize on 3 Gunta plot. They had established new nursery unit of 546Ft<sup>2</sup> area for horticulture & forest trees while using scrape material. In poultry farming section they collected 74 eggs of Satpuda & Kaveri breed for hatching in egg-incubator.

**Engineering section:** Students learned basics of metal fabrication while repairing beds, safety-door (Rs.14344.00) & partition wall (Rs.2920) in boy's hostel. Students earned community service of Rs.3047.00 through this work. Students also learned basics of civil work while doing PCC & fixing tile to 100 sq ft. area in the food-processing unit.

**Energy & Environment section:** In electrical section students learned basics of house-wiring skills while installing ceiling fan and repairing switch boards for boy's hostel. They fixed 15 new extension boards for 30<sup>th</sup> July exhibition. Total value of electrical repair & maintenance work was Rs.21555.00 during July month.

**Home & Health section:** Students processed 28 kg bread flour for kitchen breakfast supply. They also learnt sugar syrup-based preservation while preparing 4 kg tamarind sauce, 16 kg Moringa-Peanut chikki & laddoo, 2 kg instant carrot-halwa mix. Students also learned concept of pH, Acidity measurement while preparing cucumber pickle. Total community service sales was Rs.18340/- during July.

Pranay, Reshma & team of DBRT students, processed 300 kg Jamun fruit to manufacture 140 lit Jamun-juice, 13 lit Squash and 50 kg Jam. The processing was done for Jamun farmer Mr.Machindra Zodage (Pabal). Processing jamun helped farmer to earned extra revenue of Rs.37400.00 from very low-grade/non-marketable jamun fruits. We are also helping him in getting FSSAI license, labelling, packaging & marketing of finished products.

### **GJ IBT Maharashtra & Uttar-Pradesh updates:**

**IBT Maharashtra updates:** During July month, IBT students learnt new skills & technologies through different hands-on activities. Following are some of the highlights

**IBT program inauguration @ Nirgudsar School:** On 13<sup>th</sup> July IBT Program is inaugurated at Pandit Jawaharlal Neharu High school, Nirgudsar (Tal-Ambegaon Pune). The program is implemented by STARs Forum with financially support of TATA Technologies CSR. Program is inaugurated in a small function in the presence of Mrs.Uma Krushnan and Sidharth Yavalkar (CSR officials TATA Technologies). On this occasion students of 8<sup>th</sup> to 10<sup>th</sup> standard demonstrated their learning enthusiastically to all guests.

**IBT instructor training @ 3D printing technology:** IBT instructors from 18 schools attended 3D designing & printing training during 2<sup>nd</sup> to 6<sup>th</sup> July at Pabal campus. Instructors learnt basic operations of 3D printer along



**Preparing electric board**



**Jamun processing**



**Inauguration of IBT @ Nirgudsar**

with common repair-maintenance of device. The 3D printer is provided to schools as educational tool under CSR support of Schaeffler India, MAHALE Engineering Services Pvt Ltd & TATA technologies.

**IBT Coordinator training:** A 3-day residential training program for IBT school coordinators was conducted during 17<sup>th</sup> to 19<sup>th</sup> July at J.P Naik Centre, Pune. Training was attended by 30 school teachers from 29 IBT schools. During training teachers learnt new skills in engineering drawing, subject linkages with IBT, New Education Policy (NEP) provisions etc.

**Employee volunteering by Scheffler India:** Team of engineers from Scheffler India Pvt Ltd participated in 'Soil Analysis' activity at Kohinde (Tal-Khed) IBT schools. Total 11 employee volunteers participated in the activity. They also conducted 'personality development' activities for students & donated books for school library. IBT Home & Health department supplied tea & snack to volunteers while exhibiting various IBT learning activities. (Stars)



CSR Employee volunteering @ kohinde

#### Students learning activities:

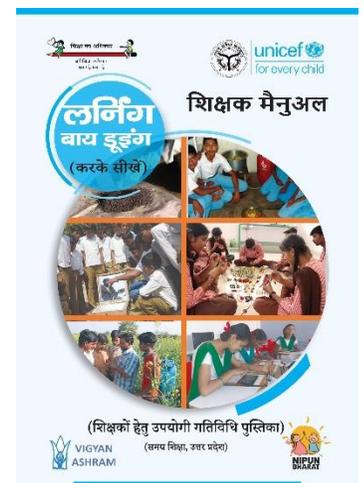
- Blood Group testing: IBT Students are testing blood group for new I-cards in the school. Tulapur (90) and Hiware (30), Vahangaon, Nigade, Singise, Shivali and Navlakh-Umbre (225) did blood group testing activity.
- Students of 9<sup>th</sup> class engineering section @ Chikhali IBT School assembled 100+ study table. Schools purchased these study tables for Rs.425.00 as kit so that students can learn basic fabrication skills. Team of 6 student took this task to earn a community service of Rs. Rs.27500.00 for school. Students learnt tools usage, spanner, nut-bolt fixing and team-work, timeline management etc skill through this activity.
- Students of engineering section of Sangise, Shivane, Tung, Salumbre and Navlakh umbre IBT School fabricated flat-bed solar dryer. They learn metal fabrication skills like cutting, drilling, welding etc skills.



Dryer fabrication @ IBT

#### IBT Uttar-Pradesh:

- 'Learning-By-Doing' teacher's handbook: Vigyan Ashram's, Introduction to Basic Technology (IBT) program is implemented in Uttar-Pradesh state by STARs Forum. Program is supported by UNICEF. As a part of the program, Vigyan Ashram team worked as a resource person to write 'Learning-By-Doing' handbook for class VI-VIII. The handbook is formally published at the hands of Hon Chief Minister of U.P Shri.Yogi Adityanath on On 19<sup>th</sup> July. They will be implementing the program in 1772 schools in the state.
- Students learnt making of toy-car from waste plastic bottle, educational telescope, overhead projector for mobile phone, rain-gauge etc in 60 schools of UP. These activities were planned based on use of local material for making science projects. We have started conducting online session



every week for instructors of the school. (Stars)

## H] Atal-Tinkering-Lab (ATL) & DIY lab update:

### ATL Andra-Pradesh:

Training of District Science Officer (DSO): A 3 days training workshop on 'design thinking' based learning was conducted at Pabal & JPNC, Pune during 10<sup>th</sup> to 13<sup>th</sup> July. Training was attended by 31 DSOs from Andra-Pradesh and 4 DSOs from Telangana state. They learnt computer aided-design using Tinkercad, 3D printing, laser cutting, application sensor & basics of electronics through Arduino board etc.



**ATL teachers workshop @ JPNC**

### ATL Telangana:

- Delegates from UNICEF (Sweden) visited ATL hub lab at Karmanghat on 5<sup>th</sup> July to interact with ATL students. Delegates appreciated the program and students learning activities. Students gifted 3D printed key-chain to guests & shared their learnings.
- As learning activity students fabricated ultrasonic Height measurement device, smart irrigation system, IR security Alarm. They also learnt use of sewing machine for bag making & carpentry tools for projects.

### ATL Karnataka:

State level ATL hub and training center at Karnataka Public School, Narsarapura was inaugurated on 29<sup>th</sup> July by MLA of Byatarayanapura, Mr. Krishna Byre Gowda and MLA of Kolar, Mr. Kothur G. Manjunath. The inauguration event was attended by Mr. Sheshagiri K M Rao (Education Specialist, UNICEF), T. Krishnamurthy (DDPI, Education department, Kolar), Ms. Namita Rao (Education Consultant, UNICEF), Ms. Veena K Shashikumar (Education Consultant UNICEF) and Mr. Kannaiah S N, BEO (Block Education officer- Education Department, Kolar).



**Foreign delegates @ Hyderabad ATL**

### Do-It-Yourself (DIY):

New batch 12 enthusiastic students joined DIY lab monthly membership. Students are placed in 2 batches to learn different theoretical concepts through hand-on activities. During July, students learnt making of Robotic hand using Craft paper, making water dispenser and crushing water bottle on its own, introduction to electronics by paper-electronics, making a Hydraulic lift & Crane etc

## I] Distance Learning Library (DLL) & Marathi Wikipedia updates:

### Distance learning library updates:

- Prasad & Vanshita completed video editing, dummy voice-over work for 2 modules of 'water pump installation' module.
- Ranajeet completed final video edit work for 'bio-floc fish farming' training module.
- Bhakti & Prasad completed work on CAD images for TiG-MiG training module. First draft of 7 video module is received from tech-wisdom (videography) team.
- Team also worked on making 7 new videos of technology & skill training success stories.

Name / topic of video	YouTube link
<b>Black Soldier Fly (BSF) based bio-waste recycling</b>	<a href="https://youtu.be/YU6nNC_JnVk">https://youtu.be/YU6nNC_JnVk</a>
<b>Instant Pooran-mix</b>	<a href="https://youtu.be/HUm9Ab6klh4">https://youtu.be/HUm9Ab6klh4</a>
<b>Using human urine for hydroponics farming</b>	<a href="https://youtu.be/amBzXlkc_cQ">https://youtu.be/amBzXlkc_cQ</a>
<b>Wood gasifier</b>	<a href="https://youtu.be/rXVdliNeCFI">https://youtu.be/rXVdliNeCFI</a>
<b>Design Innovation Centre</b>	<a href="https://youtu.be/ey6ebglPmqA">https://youtu.be/ey6ebglPmqA</a>
<b>Entrepreneurship Development Program</b>	<a href="https://youtu.be/zDc2qC2Ebcw">https://youtu.be/zDc2qC2Ebcw</a>
<b>Advanced sewing classes</b>	<a href="https://youtu.be/RpFZqOGWGOQ">https://youtu.be/RpFZqOGWGOQ</a>

### Wikipedia update:

- The work of Pabal Wiki-girls is selected for 'poster presentation' at 'Wikimani Singapore' conference to be held during 16<sup>th</sup> to 18<sup>th</sup> August. Link of poster - [Inspiring Rural Women to Create Free Knowledge on Wikimedia Projects - Wikimedia Journey of Vigyan Ashram, India](#)
- In July months, Wiki team completed scanning of 2 books with total pages of 348 pages.

## J] Other tit-bits:

- Annual progress review of VA staff was held on 4<sup>th</sup> & 5<sup>th</sup> July. A progress review was conducted on various projects like DBRT, DIC and EDP etc. New course accreditation, student-staff safety & discipline etc were discussed and decisions were made for upcoming academic year.
- Engineering students installed new solar street lamp near new hostel building. The lamp was donated by Dr.Ranga , Gharda chemical's foundation .(VATF)
- Bhushan Rothe (BE Mech), Pranay



Solar lamp from Dr Ranga

Yaday (BSC Food Science) joined VA team as instructor for engineering, food processing. Komal Raut joined IBT team @ Pune.

- iv. VA Kitchen staff visited Shri.Bhagwanrao Naphate Institute of Education (Paud, Pune) on 7<sup>th</sup> July to learn operations of automated 'Roti Maker' machine. We are planning to purchase 'roti maker' for Pabal kitchen with the financial support of ASHA for Education.
- v. Weather record – Rainfall of the month – 77.97 mm (Total: 122.62 mm), Max temp- 29.00°C, Min Temp –21.00°C, Humidity –81 %, Water height in well– 3.10 M.
- vi. Energy consumption record- Electricity unit – III Phase- 723 unit, I Phase import- 26, Solar generation-2070. DG used – 4:00 Hrs.
- vii. Animal Husbandry section update – Milk production –381 Kg (Gross profit- Rs.3110.00).
- viii. Biogas produced-23.93 M<sup>3</sup> (Dung used- 584.0 Kg)
- ix. Online visitors: www.dsttara.org – 842 (New visitor- 819, Repeated-23), www.vigyanashram.com – 1351 (New visitor-1275 Repeated-76). Campus tour visitors –1932.



**Kitchen staffs visit to Naphate foundation**

**KJ Data Report:** <https://shorturl.at/dklnE>

(Work of VA is supported by Asha for Education, Praj foundation, EATON Foundation, LTI-Mindtree, SPA Education Foundation, UNICEF, TATA Technologies Pvt Ltd, Mahle Engineering Services Pvt Ltd, Schaeffler India, INDUSIA Endowment, Savitribai Phule Pune University, Dept of Science & Technology, La-foundation, Prabhu trust and many individuals and foundations)

#### **Photo Gallery:**



UV filter workshop by Suhas @ Fab23, Bhutan



VA Management committee with Chairman, IIE on 30<sup>th</sup> July @ Pabal



Yuva Udyojak purskar to Mr.Vaibhav konde



3D printing training @ Pabal



Inauguration of ATL State training center @ Nasarapura, karnataka



IBT co-ordinators training @ JPNC



Learning by doing (LWD) : Tod-Fod-Jod



DIY Lab @ JPNC

For Regular update: [www.facebook.com/vigyan.ashram.pabal](https://www.facebook.com/vigyan.ashram.pabal) ; [www.vigyanashram.blog](https://www.vigyanashram.blog)  
[www.vigyanashram.com](https://www.vigyanashram.com) ; <https://vigyanashram.online/>