

# Vigyan Ashram Status Report

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### A] Release of compendium on 'Technologies for masses & social transformation' @ IISF-2019:

Dr.Yogesh Kulkarni, Mrs Bhakti Talwelkar and Dr.Sunil Agarwal (DST) compiled and edited a compendium on various technologies developed by 25 core supported organisations of Dept of Science and Technology (SEED) division. Title of the book is 'Core Group & Change Makers – Empowering communities through Scalable Technologies for Rural Transformation'. The compendium was released by Hon Minister of Science & Technology, (GoI) Dr.Harsh Vardhan at **Indian International Science Festival 2019 (IISF 2019)** at Science city, Kolkata on 7<sup>th</sup>Dec 2019.



**Yogesh with Dr.Sunil Agarwal and Hon Minister of S&T Dr.Harsh wardhan**

Vigyan ashram has also participated in the National Social Organizations and Institutions Meet (NSOIM) during 5<sup>th</sup> to 8<sup>th</sup> November at IISF. We have put our stall at NSOIM exhibition. Mr.Amol Khamkar & Aditi Kharade represented Vigyan ashram and displayed innovative technologies developed under core support and DIC program.

Dr.Yogesh Kulkarni also gave a talk on 'Sustainable Technologies & Applications– Engaging Youth for Social enterprises' at IISF 2019.

## B] IBT Instructors training

IBT School instructors training programs were conducted during 2<sup>nd</sup> to 19<sup>th</sup> November. These trainings were conducted in 3 batches for different schools in Maharashtra. Total 93 instructors from 37 Schools participated in the trainings to learn new skills, technology application & teaching methodologies. Following are details of trainings-

- i. 1<sup>st</sup> Training (2<sup>nd</sup> to 4<sup>th</sup> Nov) : Training was aimed at introducing the instructors to updated content, evaluation process and teaching methodology. New technologies such as solar mobile charger, grey water recycling, composter for kitchen waste, natural dyes making and fortification of chikki using moringa, mahua and Javab, etc. were introduced to instructors through hands-on activities. Total 32 instructors from 13 IBT schools had participated in this training.
- ii. 2<sup>nd</sup> training (6<sup>th</sup>- 7<sup>th</sup> Nov) : This training was attended by 33 instructors from 9 IBT Schools. This training was aimed at introducing new teaching methodology using lesson plans, PPT etc. A review of the progress made against activities planned, challenges and probable solution for better implementation were taken.
- iii. 3<sup>rd</sup> training (18<sup>th</sup> & 19<sup>th</sup> Nov) : It was attended by IBT program coordinators along with the instructors. The training was aimed at selection of Science projects for exhibition, review of IBT activities, and data collection for Impact assessment. Total 28 teachers from 15 schools participated.



**Instructor Training**

We are thankful to Praj Foundation, L & T Infotech and Suzlon foundation for their support & guidance in instructor training & program implementation.

## C] Technology Exhibition @ Maan Deshi Mohtshav Satara :

Vigyan ashram participated in the 'माणदेशी महोत्सव २०१९' @ Satara during 23<sup>rd</sup> to 27<sup>th</sup> November. It was women Self-help group focused rural livelihood technology exhibition organized by 'Mann Deshi foundation'. We had received overwhelming response for innovative technologies like solar dome dryer, kitchen waste composter, egg incubator, Rice De-husking machine etc. Vishal Jagtap along with DBRT students Krishan & Yash represented Vigyan ashram during exhibition.





## D] Review of DIC project and Exhibition 'Design Innovation Center' @ IIT Delhi:

We have participated along with Savitribai Phule Pune University team for review of DIC under scheme "National Initiative for Design Innovation" on 26<sup>th</sup> Nov. Review was organised at IIT, Delhi. We have exhibited information and prototype of technologies developed under DIC and poster presentation of StartUps developed under DIC scheme. Dr.Yogesh and Sunny Bansode represented Vigyan Ashram along with DIC hub of SPPU. A booklet of DIC technologies was prepared by SPPU. DIC scheme will be concluded in March 2020 and we are expecting extension of the scheme.



## E] DBRT Updates:

DBRT classes resumed after Diwali vacation on 1<sup>st</sup> Nov. Following are some of the highlighted activities during November-

- Students of agriculture section started working on re-structuring of animal husbandry section. They have designed and started fabrication of new vermicomposting & dry fodder storage sheds. Students also performed age determination of goat, installation of drip irrigation and preparation of vermicompost.



**DBRT @ Electrical**

- Student in electrical section, learnt making of earthing pit, overhauling of motor pump and basics of electrical connection while performing various electrical maintenance work on campus.
- Workshop department students learnt basic of brick laying and mortar making while making concrete floor near wash basin area of kitchen. They also learnt use of Vernier calliper, arkwelding and basic plumbing skills. They earned community service of Rs.3500 as labour charges by undertaking contract work worth Rs.37597 during this month.

- Students of Home & Health section learnt operations of firewood & electrical bakery furnace while making bread for kitchen breakfast. Students sold processed food products like chikki, tamarind sauce, bakery products worth Rs.7839/-.
- In the Fab Lab, DBRT students learnt operation of laser cutting and basics of sensor application while fabricating gift articles for 'Christmas' celebrations.
- Ranajeet gave a talk on 'Skill Training opportunity for rural youth' at training program organized by Chatrapathi Shahu Maharaj Research, Training and Human development Institute (SARTHI)' on 25<sup>th</sup> Nov.

#### F] IBT Update :

IBT schools are gearing up for science exhibition and community reach out activities after Diwali and completion of first academic semester. Following are some of the highlights of November-

- IBT students in Shri Devi Shanta Durga High school Vadachapat , (Dist-Sindhudurg) made a pedal driven cloth washing machine for science exhibition project. They had utilized scrap collected through scrap rally drive. They won 3<sup>rd</sup> prize for their project at Taluka level competition. IBT students in this school also completed construction of nursery shed in the schools. School has constructed 1500 Ft<sup>2</sup> plant seedling nursery with the financial support of Rs.2.5 Lakhs from Dr.Dipali Hardikar. The nursery unit is inaugurated on 11<sup>th</sup> Nov.



- Students of Bhandari high school, Malvan (Dist-Sindhudurg) made a 'clap switch' for domestic ceiling fan while learning basics of electronics, soldering skills. They won 1<sup>st</sup> prize for their project at Taluka level exhibition.



#### IBT in School Highlights

- IBT students in Amboli (Dist-Pune) school fabricated a wall mounted foldable desk for their school.
- As a part of instructor training program activity, a grey water recycling unit was installed at Mukhai (Dist-Pune) school. This School will be recycling around 500 lit of grey water per day with recycling unit.
- Under LIT employee voluntary engagement program, students of Tathwade (Dist-Pune) schools learnt making of 'solar mobile charger' on 23<sup>rd</sup> of November. A team of 17 employee volunteers participated in the activity of guiding students in learning soldering, basic electronics & fabricating skill. They made 10 charger units through this activity.
- Mr. Washim Shekh (LTI CSR manager) visited IBT program at Pragati High school on 15<sup>th</sup> November to interact with IBT students, instructors & school administration on overall performance of IBT program.





pins , Power supply on same board and in low cost. It is being tested for collecting and comparing data inside and outside of polyhouse.

- Suhas has made shield for CNC machine. PCB printing, soldering and programming was done. Now shield ready for testing on PCB router machine .
- vii) Tejaswini has modified Hand grain grinding machine, to work on 12 volt DC supply (60 watt capacity). She is busy in taking trials and perfecting the system.
- viii) Automated fish feeder – DIC student Ghansham & Tejas fabricated an automated fish feeder. It will be very useful for fish farmers. It has a 10 Kg capacity hopper (4 mm floating feed), worm screw to release fish feed and a timer. Quantity of fish feed to be release (fed) is based on screw rotation connected to DC motor. Feeder can be operated directly on solar panel. Total cost of prototype is Rs.6500/-. Its installed at Chikhali site for pilot testing
- ix) Ranajeet, Dr.Yogesh and Dr.Dixit sir visited Bajaj Electricals, Ranjangaon plant on 30<sup>th</sup> Nov. Visit was to discuss composting, plant garden and grey water recycling issues faced by Bajaj Electricals.
- x) Ranajeet and Dr.Yogesh visited 'Anandghana Industries' Nhavra to discuss various aspects in promotion of Dome dryer.



### DIY Lab activities

#### H] DIY Lab, Wiki & Digital Textile lab :

- i) REDx club : REDx club members visited health camp organized at Velha village on 9<sup>th</sup> Dec. They had interacted with doctors and health workers to understand challenges and defining problem statement for their AI/ML project.
- ii) We have started interior work of DIY lab from 15<sup>th</sup> Nov. The work is being carried out with the support of SPA Education foundation.
- iii) DIY Workshop : Following workshop were held at JPNC in Nov 2019.  
Vasantdada Patil Vidyalaya, Shukravar Peth (25 Nov)- 20 students, Hutatma Balveer Shirish Kumar Vidyalaya, Shivajinagar (26 & 27 Nov); Gram Mangal school (every



**Komal and Priyanka with their laptop**

- week); Robotics workshop (3<sup>rd</sup> Nov, 12 students); Dr.Bharatratna Ambedkar School on Laser (14<sup>th</sup> Nov-Children's Day Special workshop)
- iv) Wikipedia group meeting was held at Pabal on 29 Nov. Mr.Subodh Kulkarni of CIS-A2K visited Pabal for the meeting. We have decided time line and project management of wiki project at Pabal. We have started project for 'Rare books digitalization project' with public library of Rajgurunagar.



V) Komal and Priyanka got individual laptop and internet connection from CIS-A2K for participating in the Wikipedia work under project Tiger. This is a kind of acknowledgement for their contribution in Wiki movement.

### I] Other tit-bit –

i) Pino, a gardener from Italy visited VA from 10<sup>th</sup> – 17<sup>th</sup> Nov as a volunteer. He helped us to clean and organized garden around ladies hostels. He came along with Alessandra Bianca L'Abate and Anna Luisa (both from Italy). They are Gandhian peace activist in Italy and runs organization 'weavers wheel' in Florence.

ii) Yogesh delivered a talk on 'Rethinking Development' at Azim Premji University, Bangalore on 13<sup>th</sup> Nov. He also visited Project DEFY (Makers Space for school), Work Bench Project (Fab Lab) and TIDE (core support organization) during his Bangalore visit.

iii) Yogesh delivered talk on 'Engaging

youth in Social integration programs' as a part of UGC sponsored course on "Assuring the Success of Engineering Students" for Engineering college faculty members organized by Rajarambapu College of Engineering, Islampur (Sangli) on 28<sup>th</sup> Nov.

iv) Mr. Ashok Kalbag represented VA in a 'Joy of Giving' program meeting organized by RUSA- Govt of Rajasthan at Jaipur on 30<sup>th</sup> Nov.

iv) Ranajeet participated in 10 days Vipassana course from 10<sup>th</sup> to 20<sup>th</sup> November at Markal, Pune.

vi) Donation to VA : Mrs Vidya Kasargod – We are thankful to them for their support.

v) We have received 12 ABS water tank from SI groups as a donation for grey water recycling.

vi) Weather record – Rainfall of the month – 28.23mm (Total – 945.28 mm) ,Max temp-38.00 °C, Min Temp – 16.00 °C , Humidity – 85 % , Water height in well – 6.25 Mtr.

vii) Energy consumption record- Electricity unit – III Phase -1118 units , I Phase Export- 202 units, Import- 832 units. (We are still not getting bills giving effect of solar net metering from MSEB).

Quality of power : Number of interruptions : 51, Normal voltage : 84.06 % No supply : 4.22 % (30 hrs), low voltage : 11.69 % , No data: 0 %.

viii) Biogas consumption – Dung used- 00 Kg, Gas produced- NIL

ix) Two wheeler – 450 Km

x) Visitors to [www.dsttara.org](http://www.dsttara.org) – 1249(New visitor –1103 Repeated- 156) , [www.vigyanashram.com](http://www.vigyanashram.com) – 1146 (New visitor – 926 Repeated-220)



Italian friends @ ashram

### Data Report:

[https://drive.google.com/open?id=1JBwDkxJeqdJbzdqvpfr\\_EH9UkM1ZirtG](https://drive.google.com/open?id=1JBwDkxJeqdJbzdqvpfr_EH9UkM1ZirtG)

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

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

## Photo Gallery:



Delivery of composter



Amol explaining project to DST Secretary Dr. Ashutosh Sharma



Interior work in progress @ DIY Lab



Dome Dryer @ Anandghana Industries

# आधुनिक चारा उत्पादन मोकाट चराईला पर्याय



लेखक शेती व पशुपालन तज्ज्ञ असून 'विज्ञान आश्रम, पाबळ' येथे कार्यरत आहेत.

लोकसंख्या आणि पशुधन यांच्या वाढीमुळे जंगल, पठार, नद्या इत्यादी नैसर्गिक स्रोतांवरचा ताणही वाढत आहे. अशा संसाधनांचा विवेकी वापर करण्याबरोबरच योग्य त्या पर्यायी व्यवस्था शोधणं क्रमप्राप्त आहे. गुरांच्या मोकाट चराईला पर्याय म्हणून चारा उपलब्धीसाठी नवीन तंत्र आत्मसात करणं सद्यःस्थितीत जास्त सोयीस्कर ठरेल.

## गणेश पिंगळे

यंदाचा ११ जुलै हा दिवस 'जागतिक लोकसंख्या दिवस' म्हणून साजरा होताना चिंतेत भर घालणारा ठरला. कारण याच वर्षीच्या एप्रिल महिन्यात जागतिक लोकसंख्येनं ७७० कोटी एवढा आकडा गाठला. एकूण जागतिक लोकसंख्येचा विचार करता त्यात भारतीयांची लोकसंख्या

तंत्रज्ञान हा त्यातला एक उपाय असू शकतो. आधुनिक चारा तंत्रज्ञान समजून घेण्याआधी आजवर ज्या मुक्त पद्धतीनं गुरांची चराई होत आली आहे, त्याचे तोटे पाहायला हवेत. गायरानांवरील गवतात एकूण पचनीय घटकांचं प्रमाण फक्त १२ ते १५ टक्के असल्यानं जनावरांची वाढ योग्य प्रमाणात

Article written by Head of Agri Dept Mr. Ganesh Pingale was published in November issue of Magazine 'Shashwat Vinikaran शाश्वत वनीकरण' by Vanarai. Articles talked about modern methods of fodder production.