Vigyan Ashram (VA)

Diploma in Basic Rural Technology (DBRT)
IBT Coordinator
Short Term Courses

Annual Update for 2019-2020
Budget Proposal 2020-2021
Mission

- Laboratory of education
- Education suitable for the majority of the population, who at present often opts to remain out of school.
- Learning While Doing - Learning skills needed to accomplish the chosen task
- Entrepreneur mindset - Learn everything that is needed to take a product from the concept to the market.
- Application of modern technology to the challenges in the rural areas.
- Our ultimate mission is to spread this model in each and every school in India.
Objectives

1. Integration of education with rural development
2. Stimulating intellect through physical activities
3. Broadening the horizon of student experience
4. Reversing rural to urban migration
5. Giving multi skill base for specialization
6. Developing entrepreneurship
History

• 1983 VA Founded by scientist turned educationalist Dr. S. S. Kalbag with DBRT residential program.
• 1987: IBT program pilot in formal school (1 day a week for grade 8, 9 10)
• 1995: IBT extended to 15 schools increasing to 25 in 2001
• 2002: Fablab was set up with MIT collaboration
• 2005: Partnership with 'LAHI' - Lend-A-Hand-India to set up 100 IBT Schools called PLAN 100
• 2006: 16 IBT schools with collaboration with EWB (Engineers without Borders)
• 2011: Finishing School built from the award money of 100,000 GBP in Evolve competition organized by M/S GKN Sinter Metal.
• 2014: IBT in 122 schools
• 2015: Accredited under National Institute of Open Schooling (NIOS)
• 2016: Design Innovation center with collaboration with Pune University ready for operations
Location

Pabal – 70 km from Pune, Maharashtra

IBT program is implemented in 130+ schools across 6 states (Maharashtra, Karnataka, Goa, Andhra Pradesh, Chattisgarh and Tamilnadu)
Various programs at Vigyan Ashram

<table>
<thead>
<tr>
<th>S.N</th>
<th>Program name &amp; supported funding partner</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CORE support program Supported by DST (SEED Division)</td>
<td>Development &amp; dissemination of Appropriate rural technologies.</td>
</tr>
<tr>
<td>2.</td>
<td>Science &amp; Technology based entrepreneurship Development (STED) Supported by DST (NSTEDB)</td>
<td>Establishing technology based rural microenterprises.</td>
</tr>
<tr>
<td>3.</td>
<td>Design Innovation Centre (DIC) in collaboration with Savitribai Phule Pune University &amp; Research fellowship for young graduates Supported by Eaton Foundation</td>
<td>To conduct Design innovation courses with focus on Soil microbiology, Product design, Sensor technology and water &amp; Waste management. Eaton foundation supported DIC with research fellowship grant to DIC students.</td>
</tr>
<tr>
<td>4.</td>
<td>DBRT Program and other short term vocational training Programs supported by Asha For Education, Eaton Foundation, SPA Education foundation, Megger India (P) Ltd. and many other individual supporters</td>
<td>Implementing various technologies-based enterprise &amp; skills development training program for rural youth.</td>
</tr>
</tbody>
</table>
### Various programs at Vigyan Ashram

<table>
<thead>
<tr>
<th>S.N</th>
<th>Program name &amp; supported funding partner</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Introduction to Basic Technology (IBT) program in secondary school. With support from Praj Foundation, Suzlon Foundation, IL&amp;FS (Nalanda) foundation, Govt of Chattisgarh, L&amp;T Infotech foundation.</td>
<td>Increasing impact &amp; sustainability of IBT program in selected schools in Maharashtra State.</td>
</tr>
<tr>
<td>6.</td>
<td>Soil testing under Soil Health Card Mission Project supported by Agricultural Ministry (GOI of India)</td>
<td>VA soil testing laboratory registered under ‘Soil Health Card’ mission &amp; distributed soil health cards to 15500 farmers of Shirur taluka.</td>
</tr>
<tr>
<td>7.</td>
<td>Fab Lab @ Pabal (Fab foundation), D-I-Y Lab @ Pune (Eaton foundation), Innovation Lab @ Dantewada</td>
<td>To train students in digital fabrication</td>
</tr>
<tr>
<td>8.</td>
<td>Infrastructure Development : supported by Asha for Education, SPA Education Foundation, Megger India Pvt Ltd, INDUSA Endowment and Many individual well wishers of VA</td>
<td>New Classroom construction (completed); Construction of Hostel (in progress)</td>
</tr>
</tbody>
</table>
Asha Support Details

DBRT (Diploma in Basic Rural Technology), 1-year residential diploma program is main laboratory of education for VA. IBT program is its replication in schools.

Asha mainly supports core staff salary and other expenses (Utilities, internet, Electricity, Water, Maintenance, Communication, Travel) at Pabal campus.

- DBRT
  - DBRT instructor staff (7 Instructors)
  - Admin staff (1 Accounts person)
  - Kitchen staff (4 people)
  - Utilities (e.g. electricity, water, internet)
  - NIOS admission and exam fees
Other income sources

• Students are charged with Rs.23000 fees (tuition fees Rs. 18,000, NIOS Fees Rs. 4000, Hostel bedding Rs. 1000) and food expenses Rs. 1500 per month as per the attendance. Students pays in small installment throughout the year.

• Students can apply for loan scholarship. They can pay later on completion of the course. SPA and Tata Motors support scholarship of Rs.10,000 each for 30 students.

• DBRT and short term courses supported by Asha for Education, Eaton Foundation, SPA Education foundation, INDUSA, Megger (I) Pvt Ltd and many individual donors.

• IBT schools are supported by: Praj foundation, Suzlon Foundation, Nalanda Foundation, L&T Infotech, UNICEF, Chattisgarh Dantewada Administration, Wild-life conservation trust, INDUSA, Maharashtra Knowledge Foundation

• Department of Science and Technology (DST), Govt. of India supports development of rural technology on a project by project basis

• Savitribai Phule Pune University supports the DIC program and internships.

• Infrastructure development – INDUSA (Asha Star Donor), Department of Science and technology, Solidworks, Fab foundation, SBI life insurance.
# 2019-2020 Fund Utilization

<table>
<thead>
<tr>
<th>Approved</th>
<th>Rs.</th>
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<tbody>
<tr>
<td>DBRT Salary</td>
<td>18,87,396</td>
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<tr>
<td>Food expenses</td>
<td>16,20,000</td>
</tr>
<tr>
<td>Other expenses (Consumables, Utilities, Travel etc)</td>
<td>10,91,337</td>
</tr>
<tr>
<td>NIOS admission + Exam fees</td>
<td>1,36,792</td>
</tr>
<tr>
<td>Admin overheads (6%)</td>
<td>2,84,132</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50,19,657</strong></td>
</tr>
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## Asha Fund History

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
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<tr>
<td>2019-2020</td>
<td>Rs. 12,65,000</td>
</tr>
<tr>
<td>2018-2019</td>
<td>Rs. 12,65,000</td>
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<tr>
<td>2017-2018</td>
<td>Rs. 12,65,000</td>
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Income: 2019-20 Actual vs 2020-21 Projected
(From DBRT related major income sources)

<table>
<thead>
<tr>
<th>Head</th>
<th>Actuals income DBRT 2019-20</th>
<th>Projected 2020-21</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actuals income DBRT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asha</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12,65,000</td>
<td>17,00,000</td>
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<tr>
<td></td>
<td>Fees from DBRT students</td>
<td>6,96,820</td>
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<tr>
<td></td>
<td>Other orgs (ETON)</td>
<td>24,05,574</td>
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<tr>
<td></td>
<td>Individual Donations</td>
<td>3,46,943</td>
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<tr>
<td></td>
<td>Total</td>
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<tr>
<td></td>
<td>Deficit</td>
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## Expenses 2019-20 vs Budget 2020-21

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<tr>
<th></th>
<th>Fiscal year 2019 –2020</th>
<th>Fiscal year 2020 –2021</th>
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<tbody>
<tr>
<td>Salaries</td>
<td>18,87,396</td>
<td>20,19,048</td>
</tr>
<tr>
<td>Utilities and other expenses</td>
<td>99,800</td>
<td>1,08,000</td>
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<tr>
<td>Material</td>
<td>8,48,448</td>
<td>6,48,000</td>
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<tr>
<td>Travel</td>
<td>1,43,089</td>
<td>1,080,000</td>
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<tr>
<td>Kitchen</td>
<td>16,20,000</td>
<td>16,20,000</td>
</tr>
<tr>
<td>NIOS Fees</td>
<td>1,36,792</td>
<td>1,50,000</td>
</tr>
<tr>
<td>Admin overhead (6%)</td>
<td>2,84,132</td>
<td>2,79,183</td>
</tr>
<tr>
<td>Total</td>
<td>50,19,657</td>
<td>49,32,231</td>
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<tr>
<td>Proposed Budget</td>
<td>Rs. 15,00,000</td>
<td>17,00,000</td>
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<tr>
<td>Approved Budget</td>
<td>Rs. 12,65,000</td>
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</table>
### Process Checks

**Click here to see the detailed budget**

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
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<tbody>
<tr>
<td>Approved budget</td>
<td>Rs. 12,65,000</td>
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<tr>
<td>Approval type</td>
<td>Recurring</td>
</tr>
<tr>
<td>Amount(s) disbursed last fiscal year</td>
<td><strong>Rs. 12,65,000</strong></td>
</tr>
<tr>
<td>Amount utilized by the project last fiscal year</td>
<td>Rs. 12,65,000 (Rest coming from other sources)</td>
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<tr>
<td>Last Site visit</td>
<td>Jan 2020</td>
</tr>
<tr>
<td>Current primary steward</td>
<td>Jyoti Gawade</td>
</tr>
<tr>
<td>Current secondary stewards</td>
<td></td>
</tr>
</tbody>
</table>
Updates - DBRT

• Total 60 students admitted from 5 states (Maharashtra, Chhattisgarh, Gujrat, Madhya- Pradesh and Telangana states) took DBRT course in 2019-20 batch. It includes 9 girls out of which 7 girls from tribal part of Madhya Pradesh.

• Total 36 were placed after DBRT course. Three students are doing solar system installation. 4 students went for higher education.

• 60 students from 2018-19 batch are self-employed or doing agriculture.

• Agrowan (a column from a major local newspaper) published information of 8 entrepreneurs.
Updates - DBRT

• NIOS informed us that DBRT alumni Mr. YOGESH LAD has been selected to receive award on the occasion of NIOS Foundation Day on 19th Feb at the hands of Hon Vice President of India. Unfortunately, the event got postponed and will be held at later date. Yogesh Lad is from small village in konkan region of Maharashtra. He has started his own Enterprise in 2014 and now employees two youth from his village. Yogesh is inspiration for many to stay back in own village and earn good living. We are proud of Yogesh!

• Mrs. Pallavi Shanbhag conducted session on menstrual cycle and personal health for DBRT girl students in campus on 18th August.

• Managers from Bajaj Electricals conducted session on ‘workplace safety’ for DBRT students. They also guided students on various new skill training opportunities & career options.
• DBRT workshop students fabricated furniture for three newly started IBT Schools. They fabricated kitchen desk (3 units), kitchen sink table (3 units), workshop grinder stands (3 units), engineering workshop tool box (5 units) and Electrical section tool box (1 unit). They learnt various basic metal fabrication skills and also earned community service of Rs. 33899.00 including labour charges of Rs. 3595.00

• Renovation of Director’s office Office of Director of Vigyan Ashram was done by DBRT student Sohan, Krushna and Adesh undertook the task as their project work. They used material from scrap yard. They made rack for keeping awards, Projection TV screen, Cupboard and partition in the office.
DBRT Highlights

• We have 945.28 mm rain fall this year. It is highest in last 10 yrs. Our farm tank is full and agriculture dept activities are in full swing. We have created two new plots for fodder cultivation. DBRT Students have taken crop of Jawar (2.50 Acre), Lucerne (4.26 Gunta), Maize (4 Gunta), Methi (2.30 Gunta), napier grass (4 guntha).

• Students in agriculture section harvested fodder jawar crop approximately 1200 bundles worth Rs.24000/-. They had cultivated fodder maize crop in 1.5 Acre area.

• Agri students also learnt various agricultural cultivation practices while planting maize on 1.5 Acre (65 Kg seeds) & Bajara crop on 1 Acre area (10 Kg seeds).
DBRT Highlights

• Energy & Environment section students designed a control panel & installed exhaust fans in Polyhouse. They also installed 10 KVA stabilizer in soil microbiology lab and did regular maintains work for investors in campus.

• Innovative Solar Equipment’s installed on Campus :-

  We have installed following solar equipment’s on campus.

  i) Solar milking machine
  ii) Solar freezer
  iii) Solar sewing machine
  iv) Solar computer & DTP setup
  v) Solar water pump (1 Hp)
  vi) 5KW solar electrification unit for mechanical workshop. We will use these equipment’s and collect data to prove financial viability.

  DBRT students learned to use the machines and there installation.
DBRT Highlights

• Students in workshop department fabricated shed for kitchen porch & newly constructed bakery unit. They earned a labour charge of Rs.3560 on total fabrication value of Rs.40798 in their section.

• On 26th & 27th September, well-wisher & friend of VA Dr.Ashok Mathur conducted a designing & making of ‘Diwali Lantern’ training workshop for DBRT students. Dr.Mathur is an expert in ‘geodesic design’ and teaches it through very innovative & simple way. Student made 4 different type of lantern while learning various geometrical shapes.
Various Programs

• 12th Dec: Students visited ‘KISAN’ agricultural exhibition at ‘Moshi, Pune’ to see new agricultural technologies & demonstrations.

• 5th Dec: Team of 33 students & 3 staff members visited ‘BAJAJ Electrical’ Ranjangaon unit to learn ‘industrial fabrication’ operations.

• 29th Dec: Students went on ‘cycle tour’ to goat farm in Sanvindane village (30 Km) to learn ‘stall feeding system’ of goat farming with ‘Saanen’ and Boar breeds.

• Vishal & DBRT student Krishna participated in SEVA SANGH exhibition at Ganesh Kala Krida Manch Pune on 18th - 19th January. We had exhibited information about various courses offered by VA.
• Team of DBRT students participated in ‘Annual Science Exhibition’ at GMRT- Khodad on 28th & 29th February. They exhibited kitchen waste composter, Dryer, automated temperature-humidity sensor etc. Stall was visited by more than 3000+ visitors.

• Agriculture department students took a bicycle trek to ‘Agriculture exhibition’ @ KVK Narayangaon. They also visited progressive farmer on the way, a vegetable nursery seedling tray making industry as a part of their study tour. They traveled nearly 120 Km during 2 days cycle tour. During their journey, Students saw one old person met with an accident. He had lost his balance on his two wheeler and become unconscious. Team of students, immediately took him to nearest hospital. It delayed students trip the elderly person got timely medical help and new thrilling experience for students.

• Ms. Jyoti Gawade from ASHA for Education (Seattle chapter) visited Pabal campus @ 28th January. We are thankful to Jyoti & ASHA for education team for their continuous financial support & encouragement for over past 15 years.
COVID and Lockdown updates

• **Asharam classes were suspended as per directions of Govt of Maharashtra from 20th March.** Students were asked to go back to home. But students from other states are staying on campus. There are 33 students (mainly from Chattisgarh, MP and Tribal part of Maharashtra) staying on Pabal campus. Some of our senior team members are staying on campus & taking care of students & livestock.

• All DIC fellows and Fab Lab members decided to stay back on campus. They joined various forum to find out technological solution to COVID crises.

• Team of Fab Lab succeed in making prototype of ‘Face shield’ and field tested it with health care workers in Pabal village. They have made face shields using 3D printing, Laser cutting and by DIY methods. Various groups are formed to work on different challenges.

• Those members, who got stuck at home are 'Work from home' and helping in literature survey and content development.

• **Fab School Program:** Dassault systems ‘La foundation’ conveyed their support to ‘Fab School’ program. It will be implemented at Mukhai village. We will be implementing various technologies developed at VA on the school campus. Our efforts will be to make the school, Globally connected but locally self-sufficient, in terms of energy, agriculture and water management. La foundation will also support for making ‘Digital Design and DIY kit’ of various technologies developed by VA.
COVID and Lockdown updates

• We have started online classes for DBRT course from 23rd March. Every day two classes (10am - 11am and 2pm to 3pm) were conducted via video conferencing. We are using jitsi platform for conducting classes. Monday story session was also conducted via video conferencing. Those on the campus are observing all rules of social distancing.
COVID and Lockdown updates

- In April we continued with educational activities by conducting online classes. We had given on-line assignments to students. We had used Jitsi, Zoom, Skype application extensively. Following are highlights of training

- **DBRT Online and On Campus Activities:**
  DBRT instructors conducted 42 online sessions for engineering (workshop), electrical (energy & environment), agriculture and food processing (home & health) section in the month of April. Team developed a content for these sessions in the form of PPT, videos etc along with post-session assignments.

- **Entrepreneurship Development Program for Youth returned to Villages**
  Now many rural youth returned back to their villages, want to stay back after the lockdown. We have launched a social media campaign to identify such youth. So far 350+ individual showed interest to start their own enterprise.
  In the month of April, we have organized two introductory sessions for them. It was followed by training on enterprise focused training. Poultry farming (67 participants) and Vegetable nursery (22 participants) enterprise. We have invited VA alumni entrepreneurs as a guest for the session. This was received very well by the participants. We are now starting detailed follow-up training for the enrolled students.

- **Solar Entrepreneurship Training:**
  Online Solar EDP Training was completed from on 21st March to 21st April. Classes were conducted online everyday. Students have completed assignments at their home and submitted online. It was attended by 19 students.
  Solar power based livelihood and entrepreneurship opportunities – was conducted on 13th April in association with SELCO Foundation & STARS forum. It was attended by 80 participants.
  Solar drying systems and applications: Hosted on 22nd April in association with STARS forum and attended by 77 participants.
COVID and Lockdown updates

- IBT schools are completely closed with COVID19 pandemic lockdown. Still IBT schools instructor & student network tried their best to help community in creating awareness. IBT School instructors in Pune voluntarily made cloth masks using their sewing machine and distributed to local community. Some other IBT schools used this time to update their blogs.

- Wiki project girls team is working from home. They have taken book scanner at home.

- Research Paper Reading: Dr.Dixit and DIC fellows started collectively reading and discussion on selected research paper useful for our project. Sessions were held online.

- We have updated www.dsttara.in and posted COVID response of all core support groups on the website.

- Yogesh attended Brainstorming session on "Post COVID19 Restoring Economic Growth :Role of SEED-DST" organized by Dept of S&T on 23 April 2020
COVID and Lockdown updates

- Team Vigyan Ashram has made over 7000+ face-shield using Laser cutting machine. It was supplied to hospitals, PHC workers, ASHA workers, Sanitation staff. We have used open source designs available from Fab Lab network. ([https://github.com/MakersAsylumIndia/Covid-19](https://github.com/MakersAsylumIndia/Covid-19)).

- We are thankful to DIC at Savitribai Phule Pune University (SPPU) and local government administration for providing us necessary material, logistic and Govt permissions.

- We have tried other available designs of face shields and made them & then finalize the design.

- We have conducted on-line training of DST core supported organizations on Making Face shields and masks. 16 NGOs across India participated in the webinar.

- We have prepared DIY instructions of making Face shields ([shorturl.at/gGKN3](https://shorturl.at/gGKN3)) and DIY video of making face masks. It was shared widely with our student network and many adopted it. It was made by VA volunteer Mrs Anagha Dixit : [https://www.youtube.com/watch?v=EejZOBqXU9M](https://www.youtube.com/watch?v=EejZOBqXU9M)

- Dept of S&T (Govt of India) issued its Advisory for action for COVID response to NGOs supported under SEED division. They have suggested ‘Vigyan Ashram’ as a resource agency to help other NGOs in making face shields and masks.
COVID and Lockdown updates

i) PHC : Nimgaon Mhalunge ii) Fab Team iii) Latur Police using Mask iv) Team at work
COVID and Lockdown updates

We have published work-place safety instructions for Poultry farmers, Vegetable vendor, Electricians, Dairy men, Welding – fabricators. It was circulated through social media sites. Initially, we have made posters in Marathi but on request from out of Maharashtra NGOs, we have published posters in Hindi language as well.
COVID and Lockdown updates

Innovation’s During Lockdown

• Disinfection chamber: A team of DIC design & fabricated ‘disinfection chamber’ for personal body sanitization. Apart from engineering fabrication & disinfectant spraying mechanism, DIC team did a reference study for effectiveness of common surface disinfectants like Sodium Hypochlorite (NaOCl) and Hydrogen Peroxide (H2O2). It is found that H2O2 has better efficiency with less side-effects on skin, so its selected for disinfection chamber. Chamber has been operational at campus for past 1 month. We have prepared its design manual, fabrication & protocol for use. It was shared online and used by many individuals & organization’s. Documentation is available on: shorturl.at/dAX56 Video: https://www.youtube.com/watch?v=fAx0wVzdNbU

• DBRT team fabricated a pedal operated hand-wash dispenser & hand washing station at the entrance of the campus.

• IBT team translated WHO manual for preparing hand sanitizer. We will be using it for training IBT school after the lockdown.

• Terrace farming: Amol started experimenting to carry out Terrace farming on the terrace of hostel. He made 420 sq. feet experimental farm. He wishes to demonstrate concept of organic waste to soil to agricultural food. We believe COVID situation can generate interest among people to grow their own food.

• Tejas learned to make water filter candles using BARC technologies. They made 25 candles. Most of the candles failed for expected performance in test, following proper dipping method and using casting solutions at proper time is required. Team is working to solve the issue.
COVID and Lockdown updates

Suhas delivering Aerosol box to Hospital

Aerosol box was made as per the open source Design and was supplied to Nobel Hospital against their order. This order was processed under lockdown with special permission from Police to procure the material and supply the machine to hospital.
Campus Updates

• Open House Exhibition was held on 29th & 30th July on the campus. This year we had 3450 visitors including schools-college students, makers, alumni’s, villagers and well-wishers. Highlight of the exhibition was: Plastic waste Pyrolysis unit, Bio-waste composting, Grey water recycling system, Drying apparatus & Dome dryer, Bamboo engraver, Cable-bot etc.

• Nine IBT schools (80 Students and 20 instructors) also put up their stalls in the exhibition. They have demonstrated their innovate project demos on smart water level controlling system selected for state level science exhibition, room heater, agri tools, library card making mould machine, science projects various food products etc.

• A new laboratory of ‘Tissue culture & Soil Analysis’ was inaugurated on 30th July. This facility is created with funding support of Bajaj Automobile CSR under ‘Modernization of agriculture training centre’ project. This lab has modern for plant tissue culture, soil & water analysis facility to be used for training & advanced farming technology development.
Women’s Day was celebrated on campus on 8th March. We have got strong & creative team of 25+ ladies’ staff-student member. Team decorated ‘Dream House’ (common seating pagoda) with beautiful warli painting. Afterward there was small party for all members on campus.
Campus Updates

• New composter & compost bags – New ‘Society composter’ designed & fabricated. This composter is of 200 Kg / batch waste processing capacity with automated reverse-forward mixing arrangement. Bio-waste & composting culture is mixed in this composter for 10 min and then filled in ‘compost bags’ for further processing. The compost bags are specially designed for maximum aeration, easy of rotation for moisture maintains, collapsible design for easy transport & stacking and low cost.

• A compost mixer (modified motorized cement mixer) was installed at Bhor municipal corporation dumping ground. Its coated with FRP and tested for bio-waste processing of 500 Kg of waste.

• A social media campaign was conducted in Pune city for disseminating composting technology. More than 200 individual & housing societies contacted us for field demo & trials. We have planned to conduct demo at selected housing societies to reach these inquiries.

• Suhas Labade and Tushar Kukreja (Fab Academy student) attended Fab15 conference at Egypt Suhas conducted workshop on’ make your personalized power bank’ for 14 participants from various labs and also participated in ‘make a machine’ challenge with an Egyptian School students.
Graduation certificates of Fab-academy & Fabric academy students
Campus updates

- Plastic waste pyrolysis unit is received from Jaipur on 25th June. This unit is developed as joint project between Vigyan ashram, Marathi Vigyan Parishad and Manipal University (Jaipur). This unit has electrically operated furnace (118 Lit) and can convert plastic into oil. We are conducting trials on various plastic waste to analyse its performance for yield output & energy balance.

- Prasad conducted pyrolysis unit trial using tyre & foot wares waste. For 20 Kg of batch, he got 98% oil, char & gas recovery.

- A two days training for Atal Tinkering Lab (ATL) teachers were held on 2nd & 3rd August 2019. Workshop was attended by 18 ATL instructors from 13 different schools from Maharashtra. Workshop covered topics viz. Importance of tinkering labs in school curriculum, selection of proper tools / equipment, motivating students for community-based science projects, documentation & administration of ATL etc. It was first workshop in series of 3 workshops with aim of reaching to 50 ATL labs in Maharashtra.

- We have commissioned water pumping & pipe-line from thitewadi reservoir. Due to good rains, Thitewadi reservoir is filled to its capacity after 2 years of gap. Its big relief for farmers & Vigyan Ashram. A pump set was installed on the reservoir to pump water upto farm tank. We are planning to store 40 Lakh lit water in the farm tank on the campus by the end of next month.

- Seven new DIC students joined out of which 3 are girls. 2 more girls joined in later in March.
Campus Updates

• We have started new project under guidance of Mr. M V Kotwal. This stretcher will be useful for shifting patient on two wheeler and minimize the vibration during travel.

• A new version of **Autofarm Datalogger** was fabricated in the FABLAB for temperature & humidity data logging with solar powered battery backup, GPRS module based cloud storage and new (Bosch BMP 280) sensor. It is under testing with live data available online at: https://thingspeak.com/channels/852641

• **100% increase in Fees by NIOS and our futile protest** : NIOS has increased DBRT course enrollment fees by 100% for the academic year 2019 as compared to 2018. In the past (2018), we were paying NIOS Rs.1600/- per student. Now revised fees is Rs.3200/- per student. This brings additional burden on VA for 56+ students. We have lobbied hard and send various letters to NIOS. But other than accepting few demands like paying in installation etc. They have not budged on the fees. Last of application was on 17th Feb. We were following up till 16th evening but finally we have to pay fees as per the new structure.
Campus Updates

• Komal, Priyanka and Pooja participated in a ‘Wikisource advanced training workshop’ aimed to teach Wikisource content creation with hand-on learning & practice sessions on proofreading, global best practices, Wikidata linkup etc.in various Indian languages

• Two groups of girl students from Pabal College came for Solar lamp installation project and for laser cutting trophy making.

• We have participated in the review of DIC under scheme "National Initiative for Design Innovation" organised at IIT, Delhi. We have exhibited information and prototype of technologies developed under DIC and poster presentation of StartUps developed under DIC scheme. DIC scheme will be concluded in March 2020 and we are expecting extension of the scheme.
Campus Updates

• A team of 17 employee volunteers from LIT employee voluntary engagement program participated in the activity of making of ‘solar mobile charger’ guiding students in learning soldering, basic electronics & fabricating skill. They made 10 charger units through this activity.

• AWS-cloud computing training workshop was conducted from 25th to 28th December. It was first training on emerging technology like cloud computing conducted at Pabal campus. Our Management committee member Mr. Mahendra Rajgude conducted the training as a Resource person. Mr.Rajgude is AWS - certified trainer with vast experience in networking, cloud computing and its industrial application. Training topics includes AWS cloud services, SP3 , EC2 , security, VPC ,certification roadmap etc. Total 8 students (Most of them were software professional) participated in the training.

• Batch of 7 girl students joined ‘web publication’ course to learn basic of computer aided designing, web-publication and Wiki editing skills.
Campus Updates

• 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.

• Our Technology dissemination partner Mrs. Ujwala Gosavi felicitated with prestigious ‘Ramabai Joshi Women Entrepreneurship’ award for ‘Rice De-husking machine’ technology. It was given by Maratha Chamber of Commerce Agriculture (Pune) for remarkable achievement in the field of industry & entrepreneurship

• Ms Sonal Shinde participated & presented her project on ‘Improvement of soil organic carbon’ proposal under DST supported Women Science Scheme- B ‘Discussion cum mentoring workshop’ at Lucknow. She got final approval & sanction order for her ‘recycling of agricultural waste using microbial consortia of organic farming’ proposal from Dept of Science and Technology under the same program. Sonal conducted field trial with 6 farmers from Gulani & Wadgaon-peer village for composting of around 2 ton of agro waste.
IBT Updates

• IBT students of 2 schools conducted water testing drive in their respective villages. Total of 20 samples were collected from drinking water sources, out of 5 found +ve for E.Coli presence. These test benefited around 130 families in village.

• According to one of the quarterly assessment report IBT program has benefited to 1457 students (Girls- 944 & Boys-514).

• IBT division in Bhandari high school and Malvan schools started collection of bio-waste from weekly market to convert it into vermicompost. They have collaborated with municipal corporation to produce approximately 1-ton compost per month. A municipal corporation is providing segregated waste transportation facility while IBT students are processing waste to produce compost. This will be a unique waste management model set by School under Swatch Bharat Mission program.

• IBT Students of Katraj schools also conducted health campus while learning checking of blood pressure, blood group, BMI etc around 50 participants.

• IBT Students of Sant Dyaneshwar Vidyalaya, Chas (Pune) conducted water potability (H2S) test for 10 samples on 13th Jan 2020. These samples were collected from community handpumps & wells in village. Out of 10 samples, 5 samples were found positive for bacterial contamination & not-fit for drinking.

• IBT Students of Vadachapat (Sindhudurg) fabricated and installed streetlight automation (LDR) units to 55 street lights in their village.
IBT Updates

- Students of 6 porta cabin school in Bijapur district tested blood group of 722 students in 6 schools. They also identified 45 students with lower hemoglobin levels.

- Students in agricultural section of Bijapur Porta cabin, trying to adopt ‘Akshay-Chakra’ a traditional farming methodology with circular landscape with composting pit at center.

- IBT School instructors training programs were conducted during 2nd to 19th 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.

- 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.

- A performance audit of PRAJ Foundation supported IBT Model School project was completed. It’s found that performance rating of schools were increase from 58.72 % in June 2019 to 72 % in March 2020. Performance rating is calculated on parameters like students understanding level of particular topic, community service, initiatives of instructor to make IBT session more effective and engaging, community services and school administration support, etc.
DIY Lab Updates

• Rutvij conducted Workshop on Bio Medical sensors for DIY Lab students during 20th – 31st Jan. Students made project using Muscle sensor (Exoskeleton), Galvanic Skin Response Sensor (Emotion Detecting Gloves), Heart rate monitor(Digital heart).
Collaborations

• Yogesh attended ISBA Conference @ Kochi on 18th and 19th July. He was a panellist in a pre-conference workshop on ‘Setting up of Makerspaces and fab labs’ at Kerala Startup Mission, Kochi.

• Suhas participated in Smart India Hackathon @ NIT Trichy in between 7th July to 12th July. He was mentor for ‘product design’ challenge. Team mentored by him won first prize in hackathon under agriculture development theme.

• A proposal on ‘solar energy innovation’ is accepted by SELCO Foundation. Proposal aims to adopt, develop, demonstrate and disseminate, Solar energy Innovations for improving livelihood in rural areas. We will adopt selected SELCO solar technologies to demonstrate and train rural youth through skill & entrepreneurship development programs. Proposal will also support piloting of three new innovations. SELCO

• Dr.Yogesh Kulkarni was selected for ‘Maker Residency’ program titled ‘Brain that comes back to veneto for future’ in Italy. He worked in the incubation center & co-working space in Veneto region for 2 months.

• Vigyan ashram is felicitated by ‘Guruvarya Achutrao Patwarthan Sewarhuti award 2019’. for outstanding work in the educational field by Patwardhan high school which is one of the oldest institute in the Konkan region. Award comprises of a memento and award money of Rs.25000.
Collaborations

• Fab Academy Instructors Boot Camp: Suhas participated in the instructors boot camp at Kochi Fab Lab from 20th – 25th January. Dr. Neil Gershenfeld guided students on new design tools, microcontrollers, new CNC machines etc. The camp was also attended by our Alumni Ms Arundhati and Ms Apeksha. They will be instructor for Fab Academy 2020.

• ‘Core Group & Change Makers – Empowering communities through Scalable Technologies for Rural Transformation’ – This book edited by Dr. Yogesh Kulkarni, Dr. Sunil Agarwal and Mrs Bhakti Talwelkar got printed. It will be available online on: https://www.slideshare.net/yogeshkulkarni106/core-groups-change-makers-230462575

• Yogesh gave a talk on ‘Fab Lab for appropriate technologies’, at RuTAG conference at IIT, Madras on 12th March.
Visitors

• Mr. Finias Magessa (Tanzania), Sarah and Prashant from SELCO foundation visited VA on 23rd October to learn our learning methodology & rural technology dissemination model.

• Mr. Hugo Schleicher (France), is Mechanical Engineer is intern for 2 month. Hugo along with Vipul is working on developing prototype for Aeroponics system. Their first prototype is ready and have very promising results. His project is available on: http://vadic.vigyanashram.blog/author/hujo-schleicher/

• ii) Ms Rossana Manzana (Italy); she is learning about digital fabric assignments. She will be in Ashram for 3 months. https://roseitblog.wordpress.com/

• REDx club: REDx club members visited health camp organized at Velha village on 9th Dec. They had interacted with doctors and health workers to understand challenges and defining problem statement for their AI/ML project.

• Pino, a gardener from Italy visited VA from 10th – 17th 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.
Infrastructure Updates

• Interior modification work of DIC boys hostel was completed in September. This hostel was having 3 housing units with two room each and common WC unit. The hostel interior was modified to make 6 independent double occupancy room with separate WC units. Now 12 students can be accommodated in this hostel with better privacy and furniture facility.

• We also reconstructed fire wood bakery on campus. Old furnace was collapsed due to rusting of supporting roof structure. Bakery furnace is reconstructed with 6*3 ft furnace baking area to accommodate around 5-6 baking tray at one time.

• We have renovated interior of the DIY lab. The work was done with the support of SPA Education foundation.

• We are working with Selco Foundation to promote Solar Energy based Entrepreneurship. To develop and demonstrate working business models around these technologies. We have installed following solar equipment’s on campus. We will use these equipment’s and collect data to prove financial viability. We will also train students on new solar applications.

• First batch of 15 students from C.T.Bora college (shirur) successfully completed Solar EDP program 2nd batch of Solar EDP was started but due to COVID-19 lockdown we are conducting this training through online video conferencing session. These students will complete their hand on learning session after lockdown. We have 22 students & their teachers register for this program.
Infrastructure Updates

- Purchasing new agriculture land- We started formalities in purchasing of new agriculture land adjoining to Pabal campus. Its 19.62 Gunta (0.1984 Hector) agriculture land belonging to Pabal farmer.

- SBI life insurance company Ltd (Mumbai) donated 13 used personal computers to Vigyan ashram on 13th March. These PC’s are installed in our computer lab for students use. We have also received 4 computers from Gharda Chemicals for DIY lab as donation. We are thankful to them for their contribution.
Site Visit

• Click to see the site visit report by Jyoti in January 2020
Vigyan Ashram Resources

• Main portal: www.vigyanashram.com
• Continuous updates:  
  www.vigyanashram.wordpress.com
  https://www.facebook.com/vigyan.ashram.pabal/
• Monthly status report and all annual reports: http://vigyanashram.com/InnerPages/Report.aspx
• Documentary: http://www.youtube.com/watch?v=tYARqEp0Nbg
• OER portal: www.learningwhiledoing.in
• DST portal: www.dsttara.org
• DIC blog: www.vadic.wordpress.com
• DBRT Students blog: https://vigyanashramdbrt.wordpress.com/
• Photo of DBRT activities are available on - http://vigyanashramdbrt.blogspot.in/
• IBT schools blog: http://www.myibtschool.com/
• Case studies of IBT program: https://drive.google.com/file/d/1YbOpecOIRffDjdoplNUEWRygrT8UUpxC/view
• Entrepreneurship Accelerator Blog : www.ruralstartup.wordpress.com
Vigyan Ashram Videos

• A short video of DST core support activities: https://youtu.be/ssQZMRUNIYs
• IBT alumni talking about his experience: https://drive.google.com/file/d/1sN-X3dO9NwiW6T3QNDnSagPXn2y3tXEA/view
• Technology development videos made by VA: https://www.youtube.com/channel/UCFOH2Jf313u8OrQ3B-PohaA
• IBT students from Chhattisgarh organized a IBT product exhibition and sale https://bit.ly/2YbQSfm
• Development journey of composting project: https://www.youtube.com/watch?v=cJAlXMukNb4&feature=youtu.be
• Short Film on Wiki project @ Vigyan Ashram https://www.youtube.com/watch?v=ce2EjJIHX4g
Pictures

IBT students learning smart sensors

Solar Eclipse watching on the campus
Pictures

Director-VA Office

Team responsible for the makeover
Pictures

Making and testing earthing for new hostel

New addition: SRM 20: CNC milling machine
Pictures

IBT Instructors meeting @ Bijapur

IBT Instructor Training
Pictures

New DBRT batch arriving on campus

DBRT: Electrical wiring @ Soil Lab
Pictures

Komal and Priyanka got individual laptop and internet connection from CIS-A2K for participating in the Wikipedia work under project Tiger.

IBT Bijapur students performing ‘blood group’ testing at district level science exhibition.
New Look of Dome 1 and Dome 2
DBRT students in the workshop

AWS-cloud computing training workshop
DBRT students @ Goat farm, Kisan exhibition, Bajaj Electricals
Clockwise – Solar DC Fridge, Milking machine, Solar panel, workshop inverter

Suhas and Arundhati with Dr. Neil Gershenfeld @ Fab instructors Boot camp at Kochi