

Annual
Report

2018-2019

Vigyan Ashram

(A centre of Indian Institute of Education)

At.Post.PabalDist.Pune 412403

www.vigyanashram.com

Introduction:

It's our pleasure to present annual progress report for FY 2018-2019. "Development through Education & Education through Development" is a mission of Vigyan ashram. Among the highlights of the year: We have completed construction of new boys hostel building, started REDxclub to learn AI& machine learning at Pune and launched rice de-husking machine to market. We have also started on field pilot testing of dome dryer.

We are thankful for all our funding partners, donors, field partners, students and volunteers, participants in our field program for their valuable support, inputs and encouragement.

A] PM visit to IBT Stall @ Jangla village: Honourable PM Shri. Narendra Modi visited IBT stall at Jangla porta cabin School on his visit to Bijapur (Chhattisgarh). Vigyan ashram is working in Bijapur (Chhattisgarh) since 2011 for implementation of IBT program. IBT Student gifted 3D printed statue of Dr. Ambedkar to Prime Minister. and also shows various other innovative products. PM appreciated IBT program and also shared story on his social media account.



B] Inauguration of New Boys hostel:

Work of new boy's hostel got completed.

It was formally inaugurated on 13th January 2019. Hostel was inaugurated by current batch DBRT student Ajikya, Rajesh & Parmeshwar as token of appreciation for them for their contribution in its construction. The new hostel has 16 rooms with 2 students / room accommodation facility. Its one more 'green building' on campus with grey water recycling, solar water heater, solar DC fans and rain water harvesting system. Total cost of the project was Rs.47.9 Lacs. We are very thankful to Asha For Education, SPA Education Foundation, Eaton India Foundation, Kusum Soham Parivar and other individual donors for their funding support for hostel construction.

C] Inauguration of REDx club @ DIY Lab Pune:

Vigyan Ashram has started REDx club at DIY Lab, Pune. It was inaugurated on 9th Feb 2019. This club will work in the area of Artificial Intelligence (AI) and Machine learning. It is collaborative think-tank network of 'maker labs & innovators' promoted by Prof. Ramesh Raskar of MIT Boston. REDx club provides platform for young inventors with motto of innovating for billions ! VA REDx Club will focus on projects on AI for agriculture and food processing.

D] List of Programs:

Following are some of important programme along with their funding partners & objectives undertaken by Vigyan ashram during 2018-19:

S.N	Program name & supported funding partner	Objective
1.	CORE support program Supported by DST (SEED Division)	Development & dissemination of Appropriate rural technologies.
2.	Design Innovation Centre (DIC) in collaboration with Savitribai Phule Pune University & Research fellowship for young graduates Supported by Eaton Foundation	To conduct Design innovation courses with focus on Soil microbiology, Product design, Sensor technology and water & Waste management. Eaton foundation supported DIC with research fellowship grant to DIC students.
3.	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	Implementing various technologies-based enterprise & skills development training program for rural youth.
4.	Introduction to Basic Technology (IBT) program in secondary school. With the support from Praj Foundation , Suzlon Foundation , Govt of Chattisgarh, L&T Infotech foundation, Nalanda foundation.	Increasing impact & sustainability of IBT program in selected schools in Maharashtra State.
6.	Soil testing under Soil Health Card Mission Project supported by Agricultural Ministry (GOI of India)	VA soil testing laboratory registered under 'Soil Health Card' mission & distributed soil health cards to 6000+ farmers of Shirur taluka.
7.	Fab Academy, Fabric Academy (Fab foundation), D-I-Y Lab @ Pune (Eaton foundation), Innovation Lab @ Dantewada	To train students in digital fabrication , to run fab academy program.
8.	Infrastructure Development : supported by Asha for Education, SPA Education Foundation, Megger India Pvt Ltd, Bajaj Auto Ltd, INDUSIA Endowment and Many individual well- wishers of VA	New Boy's Hostel Installation of on-grid roof top solar electrification system Water pipe line, Gray water recycling systems, Greenhouse with climatic controls and tissue culture laboratory (in progress)

E] Highlights of educational program conducted during 2018-19 :

Name of Course trade	Diploma in basic rural technology	Fab academy and Design innovation centre courses	Rural technology based skill trainings courses	Introduction to basic technology
Brief training content	Hand books and online library available @ www.learningwhiledoing.in	Introduction to digital fabrication, 3D printing. Electronics and sensors etc.	Technical & enterprise establishment content as per trade.	Engineering Energy-Environ Agri-AH Home and health
Target beneficiary	School dropout, rural youth	Graduates, Makers, Innovators	Rural youth, Farmers, SHG's	High School students of rural Schools
Duration	1 year	6 months	Short duration (2 days to 90 Days)	3 year (96 days)
Number of trainees completing the training	<ul style="list-style-type: none"> • 43 students graduated during 2018-19 • Placement - 35 	<ul style="list-style-type: none"> • Design Innovation Centre (DIC) – 27 • Fab Academy – 7 • DIY lab camps - 664 	<ul style="list-style-type: none"> • Technology based skill trainings – 135 • Farmers / SHG training workshop – 153 • Entrepreneurship Development program – 67 	<ul style="list-style-type: none"> • 123 rural Schools including 12000+ students • 273 schools instructors attended training program
Affiliation / Certificate	National Institute of Open Schooling (NIOS)	Skill Indian Mission & Fab Foundation	Vocational Training Provider (VTP)	Affiliated as Muti-skill Foundation Course (MSFC) under NSQF

i] Diploma in Basic Rural Technology (DBRT):

DBRT is one-year full time residential program based on the philosophy of 'learning while doing'. This program is accredited by National Institute of Open Schooling (NIOS). Program aims to train youth in 'multi-skills' & motivate them to start their enterprise in their own area. Total 55 students from Maharashtra, Karnataka, etc enrolled for 2018-19 academic year on 10th July 2018.

DBRT 2017-18 batch graduated on 25th July 2018 with 47 students successfully completing the course. These students were placed for one year apprenticeship based on their career preferences.

ii] Design Innovation center & Digital fabrication courses:

Design innovation Centre (DIC) is Ministry of Human Resource Development (MHRD) supported scheme under "National Initiative for setting up of Design Innovation Centres, Open Design School & National Design Innovation Network". Vigyan ashram is spoke center of Savitribai Phule Pune University (SPPU). We are offering a 6 months training course for graduate / undergraduate students from science & engineering background in the field of soil

microbiology, signal conditioning & sensor technology, computer aided design and waste management & environmental studies. During 2018-19, 27 students enrolled for above 4 sectors to work on various technology challenges & build prototypes. Details of their project are available on www.vadic.vigyanashram.blog .

Fab academy 2019 program was started from January 2019. This is 6 months program to learn advanced digital fabrication skills. In 2019, we have 8 students from 5 different state & varied background like engineering, architect, chemical engineering etc. Earlier on 6th June 2018, 7 students from batch 2018 successfully completed their course and got graduated in fab lab conference in Paris, France.

iii] Rural technology based skill trainings courses:

Short term technology based skill trainings are one of the important educational program of VA. These programs aims at dissemination of various technologies and provide livelihood opportunities through enterprise development. Following are some of the important training program conducted during 2018-19:

Type of Programme and Topic	Duration	Number of trainees
Technology based short term course	1 Week to 12 Weeks	Metal Fabrication – 4 Basic agriculture- 3 House wiring & motor rewinding-4 Web designing & publication -7 (Total – 135)
Farmers Groups /SHG awareness workshops on rural technologies	1 to 7 days	Advanced Electrification (2 days workshop for practitioners)– 116 Advanced Poultry farming- 76 Aquaponics farming- 10 Soil Analysis- 5 Basic of food processing (SHG) - 65 (Total- 156)
Technology base Entrepreneurship Development Programs	1 to 4 days	Total participants – 67

[DBRT, DIC&Short term vocational training programs in Vigyan ashram are supported by - Asha for Education, Eaton Foundation, SPA Education foundation, INDUSA, Megger (I) Pvt Ltd and many individual donors. We are thankful for their support & continuous encouragement]

iv] Introduction to Basic Technology (IBT):

IBT program is implemented from class VIII-X std. Student learns various technologies useful for their communities. IBT is recognized under National Skills Qualification Framework (NSQF) as 'Multi skill Foundation Course (MFSC) Level 1 & 2'. VA is implementing IBT program in 123 + Schools benefiting over 12,000 students in Maharashtra, Chhattisgarh and Tamilnadu state. An online monitoring www.myibtschool.com keep real time track of the program & showcase various students' activities in these schools.

Following are some of the highlights of IBT program during 2018-19:

- #Swatchbharatmission @ 150th Birth anniversary of Mahatma Gandhi: This years Gandhi Jayanti was very special for IBT Schools. Schools paid tribute to the Father of the nation by installing 35+ 'Nanded Pattern' soak pits, testing 330 + water sample, distributing 715+ recyclable bags and making hundreds of dust bins all over Maharashtra state
- Approx. 400+ students from 15 schools were introduced to 3D printing technology.
- Community services of approx. Rs. 70 lacs + provided through the IBT program.

IBT virtual class: We are conducting video conferencing classes for IBT schools. Total 26 video conferencing sessions were conducted benefiting 11500+ students. Timing of classes are every Saturday morning 9.30 – 10.15am..

IBT Chhattisgarh & Tamilnadu update:

- Under energy environment section activity students made 22 soak pits in the CG schools.
- Approx. 16000 kg of vermicompost prepared at CG IBT schools.
- The students have installed pipeline of 184 ft and water tank in the boys school, Tamilnadu.
- Innovation lab Palnar- Trained 450+ students to digital fabrication tools and advance electronics through various workshops.
- Innovation lab Palnar- Student used Vinyl cutting machine and prepared 28 name plates for Palnar school new building.
- Innovation Lab of Palnar village in Dantewada district is registered as Fablab to make network with Global community.

[IBT program is supported by Praj Foundation, Suzlon Foundation, Nalanda Foundation, L&T Info Tech Ltd., UNICEF- Chhattisgarh, Dantewada District Administration, Wild-life Conservation Trust, INDUSA, Maharashtra Knowledge Foundation]

c] Appropriate technologies development and dissemination:

Vigyan ashram is working on development and dissemination of appropriate rural technology. VA is core support organisation of Dept of Science & Technology (Govt of India). Following are important highlightsof technology development work during 2018-19:

Technology	Present status / Highlighted features
Rice- De-husking machine	<ul style="list-style-type: none"> • Technology is transfered to Climber Enviro systems (Pune) for commercialization. • Implemented in 15+ locations. • Demonstration video - https://www.youtube.com/watch?v=zgee1_kXtA4
Solar Dome Dryer	<ul style="list-style-type: none"> • Successfully designed & fabricated dome dryer with 10 to 25 Kg/ batch drying capacity for leafy vegetables & fruits. • Field testing at 3 different location for feedback & improvement.
Bio-waste composting & sanitary pad incinerator	<ul style="list-style-type: none"> • Composter for individual families/housing societies is made. It is under testing with 15 + families in Pune city. • Housing society scale composting unit developed & tested at 3 different

	locations. <ul style="list-style-type: none"> • Pyrolysis based sanitary pad incinerator development under progress in collaboration with DCS technologies Pvt Ltd • Waste management consultancy is given to various organizations.
Aquaponics / Hydroponics fodder cultivation	<ul style="list-style-type: none"> • VA has developed expertise in Aquaponics. VA is supporting 'Nisargayan Kheti Solution Pvt.Ltd' to promote aquaponics on commercial basis.

Some of the important projects taken up by DIC in 2018-19.

- Amol Khamkar, a DIC 'Computer Aided Design' course student & team of work department student & instructor successfully fabricated a 'Nachani/ Ragi roaster' for making of laddoo from roasted ragi. This roaster is designed with special request from Faloda, Bhimashankar based woman SHG. This machine has capacity of 7 Kg roasting per batch and increased net production capacity of this SHG by 25 %. More details on this available on - <http://vadic.vigyanashram.blog/?s=nachani+roaster>
- DIC student Jaydeep Sarode & team developed a digital temp-humidity sensor with LED display. Good quality humidity sensor costs Rs.9000, Jaydeep used 2 digital temperature sensors 'Arduino' based programming to give output based on 'dry-wet bulb' humidity. This units cost Rs.3500 along with digital display & very useful in many applications like playhouse, meteorological stations etc. More details on this available on -<https://jaydipdic.wordpress.com/>
- Sonal Shinde , a DIC 'soil microbiology' students successfully lab tested 'Azolla based agro-waste composting' microbial consortium. Her idea is also shortlisted for 'DST-Women scientist' program for further consideration.

We are thankful to Department of Science and Technology (DST- SEED division CORE support program) ,Eaton foundation, La Foundation, SavitribaiPhule Pune University for supporting our initiative in development of technologies.

For technology development trials please visit www.vigyanashram.blog

e] Entrepreneurship Accelerator program:

VA has incubated 16 individual entrepreneurs from IBT school, DBRT alumni & other short-term trainees. Following are some of the highlights –

- Total 16 new enterprises incubated ranging from 67 total participants in 3 EDP programs. In all Vigyan ashram have incubated 114 new enterprises during past 4 years by creating 278 direct while 934 indirect job opportunities.
- Success stories of these entrepreneurs have been regularly published by 'Agrowon' a leading agricultural news paper in Maharashtra. During last year 14 such success stories are published by Agrowon newspaper. These stories are available on - <https://ruralstartup.wordpress.com/success-stories-2/>

f] Infrastructure Update :

Following are important infrastructure development work has been undertaken at Pabal campus during 2018-19.

- New Boys Hostel of 16 individual rooms for 34 students. This hostel has solar water heater (1000 lit capacity), DC ceiling fans, rain water harvesting system (80000 lit water storage) and grey water recycling system.
- Solar electrification: 6.5 Kw on-grid solar roof top electrification system was installed in Pabal campus. This will generate single phase electrical supply for daily need and feed extra generated electricity to MSEB through net metering system.
- Grey water recycling system: We are installing grey water recycling system for all hostels, kitchen building with estimated recycling of 5000 lit / day. This water will be used for cultivation fodder & toilet flushing.
- Water pipe line for agriculture: VA become partner in the farmers water lift scheme from thitewadi dam. New pipe line of 492 mtr is installed to bring water to campus from main water pipe line passing near college.
- Work is in progress of rebuilding polyhouse, tissue culture lab & animal husbandry.

We are thankful to BAJAJ Auto Ltd., Eaton foundation, ASHA for Education for supporting development of infrastructure at Vigyan Ashram.

g] Awards and Recognitions:

Vigyan ashram felicitated with ' SamarpanSanman Award- 2018' on 22nd April 2018 at the hands of renovated writer Shri.Achyut Godbole.

h] Staff trainings workshop / Conferences:

Following are the important training, conferences attended by VA staff.

S.N	Name of training organization/experts	Staff trained / Attended conference	Topic of training / presentation
1	International Solar Innovation Council (INSIC), Helsinki, Finland, Oct 2018	Dr.Yogesh Kulkarni	Part of DST core support delegation to explore new Idea's in solar application for improving rural livelihood
2	Sher-e-Bangla Agriculture University, Dhaka,Bangladesh, Sept 2018	Dr.Yogesh Kulkarni	Delivered talk on : Achieving SDGs through Fab Labs : Vigyan Ashram experience.
2	Indian International Science Festival 2018 , Lucknow.	Dr.Yogesh Kulkarni	Delivered talk on : Skill and entrepreneurship development- Challenges and opportunities.
3	Fab Asia Network – FAN4 Conference , Ho-Chi-Minh City , Vietnam 2nd-6th May 2018.	Dr.Yogesh Kulkarni	Delivered talk on : Role of digital fabrication in Sustainable development of rural India- Vigyan ashram approach
4	World flora exhibition, Taichung, Taiwan -2018	Ranajeet Shanbhag	Delivered talk on : Talk on- Integrated & Intensified farming systems
5	Gandhi Vigyan Sammelan, Wardha	Dr.Arun Dixit Amol Khamkar	Delivered talk on : Prospective of Nail Talim in higher studies – Vigyan Ashram experiences.

i] Donors and supporters:

We are able to continue our work due to financial support of many individuals and foundations. Following individuals have supported VA in 2018-19. We are thankful to them for their support.

Dr.Kishan Bhatia, Mrs Veena Joshi, Shri.M P Kotwal , Shri.Uday Kukade, Dr.Sudhir Prabhu, Shri.Gurunath Kolhatkar, Dyrge Devi trust , Mrs.VidyaKasatgod , Mrs.Usha Shah , Shri.Shailendra Ingale, Mrs.ArtilKhare, Shri.Vikas Bivalkar , Mrs. Aasavari Jog , Mrs.Supriya Agashe , Mrs.Madhuri Deshpande , Shri.Milind Mehetre, Mrs. . Padmaja Utagikar , Shri. Prabhakar Mehendale, Mrs. Smita Vaidya , Mrs.Jayashree Vaidya , Mrs. Meenal Dighe , Vasant & Shanta Pawardhan vishwasth nyas , Kusum Soham Mitra Parivar and many other individual other donors.

j] Management committee meeting :

Vigyan ashram's management committee comprises of Mr.Ashok Kalbag, Mr.Vijay Kumar, Mr.Sunil Kulkarni,Mr.Mahendra Rajgude, Mrs.Anjali Chipalkatti, Dr.Kalake, Dr.Sharad Javadekarand, Dr.Yogesh Kulkarni. The management committee meetings were held on 10thJune, 14th October and 13th January to discuss strategic, administrative and financial matters. Vigyan ashram is thankful to management committee members and Board of Trust of Indian Institute of Education for their support and guidance.

k] Social Media / Online publication:

We are communicating our work through social media platforms and websites on regular basis. This year we launched new website for documentation. This new website will host students project works, student / alumni success stories and technology development / trial details. Following is the web links - <http://www.vigyanashram.blog/>

Following are other websites managed by Vigyan Ashram

- DST Core support group's activities are updated on www.dsttara.in
- Open Educational Resources (OER) are developed and published on www.learningwhiledoing.in
- IBT School monitoring system – www.myibtschool.com
- Facebook <https://www.facebook.com/vigyan.ashram.pabal/>
- Our websites : www.vigyanashram.com

We acknowledged support of various volunteers, IBT Schools, funding partners, R & D institutes, students, alumni, staff members and Pabal villagers for their continuous support and love.