

Annual
Report

2017-2018

Vigyan Ashram

(a Center of Indian Institute of Education)

At.Post.Pabal Dist.Pune 412403

www.vigyanashram.com

Introduction:

Vigyan ashram (VA) is pleased to present annual report for year 2017-18. We are working with mission of “Development through Education & education through Education”. Among the highlights of the year: We have introduced ‘Introduction to Basic Technology (IBT)’ in Tamilnadu, we have student from Bangladesh and Bhutan for doing Fab Academy course, we have completed construction of classroom and started construction of new hostels.

We are thankful for all our funding agencies, donors, field partners, students and volunteers for their valuable inputs and encouragement.

A] ‘Beti Jindabad Bakery’ @ Jashpur (Chhattisgarh) :

During January to April 2017 , 22 girl students from Jashpur underwent bakery training at VA. These girls started ‘Beti Jindabad bakery’ with the support of District Administration. Hon.President of India awarded ‘ Nari Shakti Sanmman 2017’ on occasion of ‘International Women Day’ to them. We are proud of their achievement!



B] ‘Soil health card’ mission :

Vigyan ashram is authorised Soil testing Lab. We have conducted soil analysis for 3800 soil sample, benefiting 15500 farmers from 12 villages in shirur block. These soil sample were tested for 13 different parameters under ‘Soil Health Card’ mission.

C] Innovation lab @ Palnar Dantewada (Chhattisgarh) :

Vigyan ashram has started work of establishing ‘Innovation Lab’ (Fab Lab) at Palnar village in Dantewada district of Chattisgarh. State Govt is providing financial support through District administration. Palnar is remote village in conflict affected region. We are already running IBT program in 17 schools of Dantewada district. ‘Innovation lab’ is logical progression of IBT program. We expect this lab will benefit @ 500 students from nearby 10 schools. We expect it to address issues of forest-based livelihood.



D] List of Programs:

Following are some of important programme along with their funding partners & objectives undertaken by Vigyan ashram during 2017-18:

S.N	Program name & supported funding partner	Objective
1.	CORE support program Supported by DST (SEED Division)	Development & dissemination of Appropriate rural technologies.
2.	Science & Technology based entrepreneurship Development (STED) Supported by DST (NSTEDB)	Establishing technology based rural microenterprises.
3.	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.
4.	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.
5.	Introduction to Basic Technology (IBT) program in secondary school. With support from Praj Foundation , Suzlon Foundation , IL&FS (Nalanda) foundation, Govt of Chattisgarh, L&T Infotech 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 15500 farmers of Shirur taluka.
7.	Fab Lab @ Pabal (Fab foundation), D-I-Y Lab @ Pune (Eaton foundation), Innovation Lab @ Dantewada	To train students in digital fabrication
8.	Infrastructure Development : supported by Asha for Education, SPA Education Foundation, Megger India Pvt Ltd, INDUSA Endowment and Many individual well wishers of VA	New Classroom construction (completed); Construction of Hostel (In progress)

E] Highlights of the program conducted during 2017-18 –

a] Diploma in Basic Rural Technology (DBRT):

DBRT is one-year full time residential program based on philosophy of 'learning while doing'. This program is accredited National Institute of Open Schooling (NIOS). Program aims to train rural youth in 'multi-skills' & motivate them to start their enterprise in their own area. Total 55 students from Maharashtra, Telangana, Gujarat, Andhra-pradesh etc enrolled for 2017-18 academic year on 10th July 2017. They will complete their training on 25th June 2018. They are undergoing residential training on campus & learning agriculture, animal husbandry, metal fabrication, electrification, food processing skills.

DBRT 2016-17 batch graduated on 25th July 2017 with 52 students successfully completing the course. These students were placed for one year apprenticeship based on their career preferences. They earned average salary of Rs.8000/- during apprenticeship.

We have conducted various short term training programs/workshops for youth, SHG's, farmers etc during past year. We have also started first batch for food processing training under Skill India Mission of Government of Maharashtra.

Following are details of these training workshops during 2017-18 :

S.N.	Type of Programme and Topic	Duration	Number of trainees
1	Introduction to basic technology (IBT)– Instructor's training program on basic technologies.	5 to 10 days	Six Training including 332 instructors from Maharashtra, Chhattisgarh & Tamilnadu state.
2	Diploma in basic rural Technology	1 year	55
3	Technology based short term course	1 Week to 12 Weeks	Advanced electrician tools – 28 Food Processing (VTP) – 20 Pickle making – 10 Bakery enterprise – 22 Web publication & Designing (for girls) – 35 Micro Solar Dome installation – 20 Mekathone (Digital fabrication) – 12
4	Students volunteers & Design Innovation Centre training program	1 to 24 weeks	Fab Academy – 6 (completed), 8 are undergoing training Design innovation centre – 47
7	Farmers Groups /SHG awareness workshops on rural technologies	1 to 7 days	Farmers training workshops beneficiaries (soil analysis, goat farming, advance fodder)- 150
9	Student's workshops @ Do-It-Yourself Lab Pune.	2 to 7 Days	396 students
11	Technology transfer training: Entrepreneurship development program	1 to 4 days	Entrepreneurship develop workshop participants – 59 New enterprise incubated – 32

SUPER 20 :

We have started special training for girl students from Pabal college.

- i) Digital publication – We are training girls on writing blog, editing Wikipedia, Scanning of books and uploading them on Wiki Source. Girls wrote more than 300 wiki articles in Marathi. They have also created web pages for nearby villages & 11 IBT schools. They have also scan, uploaded and digitalized books written by Dr. Dr.Madhav Gadgil and Dr.Naralikar.
- ii) Fabric designing – We have purchased computerized sewing and embroidery machines. We have started experimenting with Fabric designing and looking for new opportunities for girl students.

[DBRT & 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]

b] Introduction to Basic Technology (IBT):

IBT program is implemented from class VIII-X std. Student learns various technologies useful to their communities. IBT is recognized as pre-vocational training program Level1 and Level2 under National Skills Qualification Framework (NSQF). It is renamed as 'Multi skill Foundation Course (MFSC)' under NSQF.

VA is implementing IBT program in 123 + Schools benefiting over 10,000 students in Maharashtra, Chhattisgarh and Tamilnadu state. We have developed an online monitoring & activities updating system (www.myibtschool.com) for IBT to keep real time track of the program.

Following are some of the highlights of IBT program in **Maharashtra** -

- A animal vaccination camp was conducted by Chadwel, Bramhanwel , Valsang , Aichal schools (District – Nandurbar) in collaboration with district animal husbandry department covering 253 animal.
- Nagaj (District – Sangli) school sold 2 units of hydroponics to the farmers and received Rs. 15100.
- Student project 'Clap Operated Fan Speed Controlling System' from Vadachapath (District-Sindhudurg) School exhibited at National level Maker Mela in Jan 2018.
- We started a video conferencing session for IBT students. Master trainer from VA conducted virtual class every Saturday at 9.30am. We have conducted 17 sessions benefitting 2155 students.
- IBT Schools in Maharashtra state earn community service of Rs. 4,71,281/- while providing various technology-based services to villages.

Shikshan-Wari Exhibition :

IBT Schools from all over Maharashtra, participated in 'Shikshanwari' program of Maharashtra state educational board. This program was aimed to showcase various innovative adopted by schools in Maharashtra state.

IBT Program owned 'Best activity based educational program' award for 2017-18 during 'Shikshan Wari' exhibition.

IBT Chhattisgarh & Tamilnadu –

- i) VA is implementing IBT program in 17 porta cabin Schools of Dantewada district & 5 porta cabin Schools of Bijapur district of Chhattisgarh state.
- ii) IBT is also started in 3 schools of Cuddlore district of Tamilnadu state.
- iii) A booklet is published on case studies of IBT Program in Chhattisgarh state on occasion of 5 years successful implantation. Booklet link – <https://drive.google.com/open?id=1YbOpecOIRffDjopINUEWRYgrT8UUpxC>

[IBT programme 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 highlights of technology development work during 2017-18 :

SN	Particular	Status
1	New modified Rice- De-husking machine	<ul style="list-style-type: none"> • Technology was field tested at 10+ locations including Velha & Bhimashankar area of Pune district. • Technology transfer to Climber Enviro systems (Pune) for commercialization.
2	Sanitary Pad incinerator	<ul style="list-style-type: none"> • Design for modified incinerator using pyrolysis principle with improved energy efficiency & lower emission is made. It is under testing phase • A MOU is signed with climber Engineers for manufacturing electrical furnace based model.
3	Municipal bio-waste waste recycling	<ul style="list-style-type: none"> • Automated bio-drum composter is designed & developed for various sizes viz small household (5 to10 family members) to housing society (10 to 50 families). • Technology was tested at Saswad Munciple Corporation (Pune). Saswad Munciple Corporation got ' Harit Brand' for its compost & also selected for award for its innovative approach in collection & processing of Urban waste.
4	Fab Projects (Digital fabrication)	<ul style="list-style-type: none"> • XYZ axis plotter: DC laser and Wood router for Schools / Tinkering labs. • DC laser for schools. Both DC laser and XYZ plotters are deployed at Loksadhna, Chikhalgaon for field testing under Chevron STEM award. • Aero-sense – A smart phone based sensor application (temperature, Humidly , environmental pollution etc).
5	Drying technologies for vegetable / fruits / spices	<ul style="list-style-type: none"> • Trials are underway for dome shaped dryer. • Drying protocol developed for Cauliflower , Onion, Beetroot etc vegetables for solar & micro-oven based drying technology.
6	Aquaponics / Hydroponics fodder cultivation	<ul style="list-style-type: none"> • Aquaponics field trials are in process. This year we have conducted trial on ' Grass carp' fish with azolla feeding. <ul style="list-style-type: none"> • Hydroponics fodder cultivation technology adopted by 25 + IBT schools & individual farmers. Youtube channel video on fodder technology got 4 Lakh + hits (

	https://www.youtube.com/watch?v=rs9SMOPDxrs&feature=youtu.be).
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We are thankful to Department of Science and Technology (DST- SEED division CORE support program) ,Praj foundation (Pune), Savitribai Phule Pune University for supporting our initiative in development of technologies.

For technology development trials please visit www.vigyanashram.wordpress.com

d] Design Innovation Center & FAB Academy updates :

'Design Innovation Centre' (DIC) program is started in collaboration with Savitribai Phule Pune University (SPPU). Focus of DIC is to design solutions in the area of agriculture (soil microbiology),product design (computer aided design),sensor & signalling conditioning (electronics) and water & waste management (environmental studies). During 2017-18 , 47 students were enrolled for various courses. These students worked on various technology development projects. More details of individual projects are available on www.vadic.wordpress.com. Some of the highlighted DIC projects with respected student details are as below –

- Bio-degradable composting & Hygiene box development for Saswad Municipal corporation - <https://siddheshsakore.wordpress.com/2018/01/31/hygiene-box/>
- Developing individual household & housing society based composter with its standard operating system (SOP) – <https://vadic2017meghrajchadchankar.wordpress.com/blog/>
- Dome shaped dryer for drying of fruits & vegetables - <https://vadic2016shubhamssembade.wordpress.com/>
- Aerosense for sensing various climatic parameters - <http://www.instructables.com/id/Sensors-With-APP/>
- Nirgudi Oil extraction unit - <https://siddheshsakore.wordpress.com/2018/04/01/nirgudi-oil-extractor/>

e] Entrepreneurship Accelerator program:

Under Entrepreneurship Accelerator program, VA have supported 32 individual entrepreneurs from IBT school, DBRT alumni & other short-term trainees. Following are some of the highlights –

- Total 32 enterprises incubated ranging from metal fabrication to cow farming. Total cumulative investments made by these enterprises exceeds Rs.35.30 lakhs.
- These enterprises are providing 103 direct & 179 indirect job opportunities in rural areas.
- We have conducted 4 Entrepreneurship Development Program (EDP) on different technologies like food processing, advanced fodder management, Micro Solar Dome installation etc benefiting 79 individuals.

f] Infrastructure Update :

Following are important infrastructure development work has been undertaken at Pabal campus during 2017-18.

- New classroom construction work completed. Its was inaugurated on 25th June 2017. New classroom has 1800 M² buildup area for 160 students seating with audio-visual project facility.
- We have got following addition to our workshop : 3D printer, CNC router, Digital embroidery and sewing machine, 52" TV for video conferencing, CCTV camera's.

- New students hostel construction work was started in the month of November 2017. New hostel has been constructed by demolishing hostel no.2. It will have 15 rooms accommodating 2 students each with total build area around 3600 M².

g] Awards and Recognitions:

Vigyan ashram received following recognitions / awards during 2017-18 :

- ‘Guruvarya Puskar’ – Dr.Abdul Kalam award for visionary in science & innovation in pedagogy’ 2017 given by the hand of Honorable minister Shri.Girish Bapat.
- Vigyan ashram Fablab got ‘2nd Chevron STEAM Education Award’ 2017 at FAB 12 conference Santiago (Chile) August 2017

h] Staff trainings workshop / Conferences:

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

S.N	Name of training organization/experts	Number of Staff participate / trained	Topic of training
1	FAB13 conference @ Santiago , Chile during 31 st July to 6 th August 2017	1	Digital fabrication, STEM Education system, Sustainable development goal.
2	Design Innovation Centre Meetup at Varanasi & Chennai	3	Annual workshop of DIC from all over India.
3	Institute of Government Accounts and Finance Regional training centre on 6 th September	2	Public Finance Management System (PFMS) accounting system
4	Train-The-Trainer workshop organized by The Centre for Internet & Society (CIS-India) 26 th to 28 th January 2018	2	Online publication, Wikipedia platform, Open source literature .
5	Festival of Innovation organized by National Innovation Foundation during 18 th to 23 rd March 2018 @ Rashtrapati Bhavan, New Delhi	1	National level Grassroot innovators & technology based entrepreneurs exhibition.

i] Publication :

- Ranajeet presented paper ‘Nai Talim 2.0 - Fablab for digital fabrication’ : A use of digital fabrication tools in IBT Schools at NUEPA (New Delhi) in October 2017
- Dr.Neil Greshenfeld in his book ‘Designing Reality’ included vision of vigyan Ashram for Maharashtra state for next 40 years. It was based on the discussion and notes written by Yogesh Kulkarni.

j] 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 2017-18.

Mr.Kishan Bhatia, Mrs Veena Joshi, Shri.M P Kotwal , Shri.Uday Kukade , Dr.Sudhir Prabhu, Shri.Gurunath Kolhatkar,Dyrga Devi trust , Mrs.Vidya Kasatgod ,Mrs.Usha Shah ,

Shri.Shailendra Ingale, Mrs.Arti Khare, 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 , Mrs.Vasanti Vinayak Masurekar ,Dr.J.B.Joshi ,Shri.Deshpande Kaka ,Mrs.Santi .V.Kalbag ,Shri.Sudhir Anant Kulkarni ,Shri.Deepak Tirodkar ,Chaitanya Sang Pune ,Mrs.Sheela Manik Patkar ,Mrs.Utkarsha Chandrkant Talwalkar ,Mr.Owen Berkeley ,Guardian College of Education ,Mr.Shrikant Hire ,Mr.Surendra Liladhar Patil,Mr.Shrirang Deshingkar, Vasant & Shanta Pawardhan vishwast nyas ,Soham Mitra Parivar and many other individual other donors.

k] Management committee meetings:

Vigyan ashram's management committee comprises on of Mr.Ashok Kalbag, Mr.Vijay Kumar, Mr.Sunil Kulkarni, Mr.Mahendra Rajgude, Mrs.Anjali Chipalkatti,Dr.Kalake,Dr.Sharad Javadekar and Dr.Yogesh Kulkarni. The management committee meetings were held on 10th April, 25th June, 24th September and 31st December 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.

l] Social Media:

We are communicating our work through social media platforms. Our social media presence is as follows

- Updates on Technology development & field trials : www.vigyanashram.wordpress.com
- DST Core support group's activities are updated on www.dsttara.in
- Open Educational Resources (OER) are developed and published on www.learningwhiledoing.in
- DIC Blog : www.vadic.wordpress.com
- Entrepreneurship Accelerator Blog : www.ruralstartup.wordpress.com
- IBT School activity updates – www.myibtschool.com
- Facebook <https://www.facebook.com/vigyan.ashram.pabal/>
- Our websites : www.vigyanashram.com ; www.dsttara.in

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.