

Annual
Report

2016-2017

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 2016-17. We are working with mission of “Development through Education & education through Education”. We have introduced many new courses and got accreditation of agriculture and electronics sector skills council. Our programs are now extended to university students as well.

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

Tribute to Mrs.Mira Kalbag (Amma)



Amma of Vigyan Ashram, Mrs.Mira Srinath Kalbag passed away on 18th March due to old age. She was 87 years old. She was Amma, guide and mentor not only for VA team but for women in Pabal village. She was conducting classes for girl’s students till 2003. She was regularly practicing Vipassana. Dr.Kalbag put foundation of educational & technological programs of Vigyan Ashram. Amma patiently cultivated

value systems in Vigyan Ashram’s work. It was immeasurable loss to us.Amma’s body was donated as per her last wish.

Fab Asia Network 3 (FAN3) conference

Vigyan ashram co-hosted Third International annual conference of Fab Asia Network (FAN3) from 13th to 18th January along with Somaiya Vidyavihar (RiiDL) & Kerala Startup mission.

It was attended by representatives from asian countries viz. Japan, Philipines, Bhutan, Taiwan, Nepal, Bangaldesh, Singapore, Vietnam &



India. Conference was held in Mumbai and Kochi and delegates visited Vigyan Ashram on 14th Jan. We displayed use of fab-lab for various rural technology development projects.

List of Programs:

Following are some of important programme along with their funding partners & objectives undertaken by Vigyan ashram during 2016-17:

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 in selected 6 Districts of Maharashtra state.
3.	Design Innovation Centre (DIC) Project Supported by Ministry of HRD with Savitribai Phule Pune University (SPPU)	To conduct Design innovation courses with focus on Soil microbiology, Product design, Single conditioning, and Environmental protection.
4.	DBRT Program and other short term vocational training Programs supported by Asha For Education , TATA Motors , Eton 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.	IBT Maharashtra supported by Praj Foundation , Suzlon Foundation , IL & FS (Nalanda) foundation , INDUSIA Endowment, Maharashtra Knowledge Foundation (MKF).	Increasing impact & sustainability of IBT program in selected schools in Maharashtra State.
6.	IBT Chhattisgarh supported by UNICEF and Govt of Chhattisgarh	IBT replication and vocational training in the tribal area of Bijapur , Dantewada and Jashpur district of Chhattisgarh state.
7.	Research fellowship for young graduates Supported by Eton Foundation	Fellowship support for participating in need based technology development projects in Design Innovation Centre (DIC)
8.	TATA-20 girls fellowship program Supported by TATA Motors.	To provide skills in advanced computing & communication skill to rural girls.

Highlights of the program conducted during 2016-17 –

A] Diploma in Basic Rural Technology (DBRT):

DBRT is one year full time residential program accredited by National Institute of Open Schooling (NIOS). This course is based on philosophy of 'learning while doing' & ideal for rural youth wish to start their enterprise in their own area. Total 56 students from Maharashtra , Chhattisgarh , Gujarat , Assam etc states took DBRT course in 2015-16 batch.

DBRT batch 2016-17 started on 10th July 2016, with 48 new students. These students will learn various basic skills in area of metal fabrication, electrification, food processing and agriculture-animal husbandry. This year we have also included advanced skill in CAD Design, Digital Fabrication, bakery products, web-publication & blog writing etc as an integral learning part of DBRT curriculum.

DBRT students worked on several infrastructure & Research development projects. They had worked on project such as grey water recycling system for boys hostel , construction of new class-room , fabrication of car-bike parking structure etc and earned community service of Rs.1,08,013/-.



Vigyan Ashram is registered Vocational training provider (VTP) centre for various skill courses under Skill India mission for Maharashtra & Chhattisgarh State. We have conducted various short term training programs/workshops for youth, SHG's, farmers etc during past year.

S.N.	Type of Programme and Topic	Duration	Number of trainees
1	Technology based short term course	1 Week to 12 Weeks	Wind mill design & fabrication - 25 Bakery (food processing) - 21 Advanced electrical wiring & motor re-winding – 43 Advanced metal fabrication – 04 Web designing & publication – 20 (Total – 113)
2	Students volunteers & Design Innovation Centre training program	1 to 24 weeks	54
3	Farmers Groups /SHG awareness workshops on rural technologies	1 to 7 days	Training on Soil Analysis – 8 Advanced poultry farming & egg incubation - 94 Advanced fodder production technics in goat farming- 20 (Total –122)
4	Fab Academy –Diploma in Digital Fabrication.	6 month	8
5	Student's workshops @ Do-It-Yourself Lab Pune.	2 to 7 Days	Basic of digital fabrication camp @ Pabal– 187 Do-it-yourself camps for School Students - Total – 141
6	Technology transfer training	1 to 4 days	New Innovative technology adoption – 25

We are also conducting computer courses for rural girls from pabal village. Project aims at imparting advanced web publishing & communication skills. With support of TATA Motors CSR we are providing scholarship to 17 girl students to learn web publishing skill. They have started publishing articles on Marathi Wikipedia.

We have also entered into agreement with BOSCH CSR in their BRIDGE-Course initiative to provide employability skills to rural youths.

DBRT & other vocational training programs in Vigyan ashram are supported by - Asha for Education, TATA Motors, Eton Foundation, SPA Education foundation, INDUSA, and many individual donors. We are thankful for their support & continuous encouragement!

B] Introduction to Basic Technology (IBT):

IBT program is implemented in VIII-X std. In this program, students learn various technologies useful to their communities. IBT is recognized as pre-vocational training program Level1 and Level2 under National Skills Qualification Framework (NSQF). IBT is named as 'Multi skill Foundation Course (MFSC)' under NSQF.

Following is the quantitative information of IBT program:

SN	Particular	Maharashtra	Chhattisgarh	Boys	girls	Total
1	Number of IBT schools	95	28			123
2	Students			7057	5293	12350
3	Number of IBT districts	21	3			24
4	Number of villages benefited	440	120			560
5	Value of community services	3800000	190000			3990000
6	Fee collected	2470000	0			2470000
7	No of enterprises started by instructor.	11	6			17
8	No of Instructors Trained	392	108			500

Following are some of the highlights of IBT program -

IBT in Maharashtra –

- Model IBT schools project – 13 schools has been developed as model IBT schools across Maharashtra.
- 3D printing workshops – We have conducted 3D printing training camp at Hirvani Vidyalaya, Gawadewadi. Through 38 camps, total 538 students from 5 secondary

Schools had been given hands on practice of 3D designing and 3D printing.

STEM Education philosophy based workshops -

- ❖ Workshop 'Learning Science through Innovation' was conducted at IISER, Pune. Total 40 student and 10 teachers participated and developed projects. Fish Drying Machine project by Chikhalgaon school was selected at state level inspire award competition.
- ❖ Workshop on using smart phone applications and websites to generate secondary data for school project was conducted at NCSC event organized at Baramati. Total 96 teachers from various schools across India attended this workshop.

c) We are conducting three years Impact assessment for Nalanda Foundation supported 6 Schools. Last year, we had done base line study and this year mid term evaluation of IBT program with the help of third party evaluator.

d) L & T InfoTech Ltd. Under its CSR dept signed MOU with Vigyan Ashram to support IBT program in 15 Schools Maharashtra.

e) We have developed Open educational resource (OER) content for total 12 activities and

f) implemented in 4 School under Shikshan Pandhari project supported

by Maharashtra Knowledge Foundation (MKF). The content is available on www.learningwhiledoing.com

g) For more information on each School activity details please visit -

h) <http://ibtblogs.blogspot.in/p/school-blogs.html>



IBT Chhattisgarh –

a) IBT program was inaugurated on 15th July at Jashpur (CG) on World Youth Skill day. Rural Education and Development Society (READS- Jashpur) signed MOU as partner organization with Vigyan Ashram to implement IBT program with the Support of UNICEF.

b) Under the livelihood intervention through IBT program, instructors started 3 new enterprises i.e.Egg Incubator, Rice dehusking and food processing unit at Jashpur with the support of UNICEF.

c) IBT program completed five years in Chattisgarh. Unicef has made a documentary on the program. It is available on : <https://www.youtube.com/watch?v=FSrvjZaEAEQ>

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 as one of the prime focus areas. Following are important highlighted technology development work during 2016-17 –

SN	Particular	Status
1	New modified Rice- De-husking machine	<ul style="list-style-type: none">• Machine is ready for large scale dissemination, 1st version is released for production.• Number of units sold :- 10 (Farmers / SHG groups , social institutes)• Number of manufacturer : 1
2	Drying technologies for vegetable / fruits / spices	<ul style="list-style-type: none">• A dryer with volume of 80 to 120 M³• To dry vegetables on bigger scale.• Based on natural air convection & dehumidification principles.• Pilot batches of drying vegetables pudina (mint leaves) / ginger / spinach / mint showed encouraging results with optimum colour, flavour retention in dried products.
3	Municipal bio-waste waste recycling	<ul style="list-style-type: none">• Package of practice developed for recycling of bio-waste in municipal areas. This includes automated bio-drum for aerobic decomposition of waste, biological inoculations & racks –trays system for fast & safe composting. Presently technology is under pilot testing phase in Municipal waste collection centre in collaboration with field partners.
4	WOMA-VIVUS FAB Incinerator (Sanitary Pad incinerator)	<ul style="list-style-type: none">• Version was ready and 10 units are send for field testing.• Based on the feedback, Modifications are made in the sanitary pad incinerator• Design with improved energy efficiency & lower emissions are under fabrication.
5	Fab Projects (Digital Fabrication)	<p>Following important projects developed –</p> <ul style="list-style-type: none">• XYZ axis plotter: Fab-lab can make various computer controlled gadgets using the plotter. E.g Rangoli making machine, DC engraver for small vendors etc.• Smart phone based sensors (temperature, humidity, environmental pollution etc) for Schools students.• Chitra bot : for wall painting robotic equipment• Solar Rava roaster / basundi maker

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.

D] Technology dissemination trainings workshops :

Following important technology dissemination training workshops were conducted during 2016-17 –

- ♦ ‘Designing, Fabrication & Installation of Wind Mill’ under guidance of Mr. Jorge Ayarza from Auroville (Pondicherry) and Co-Founder of Minvayu (www.minvayu.org). During the workshop, students fabricated 2.7KWH and 1 KWH windmill. Total 22 individual participated in this 15 days training workshop.
- ♦ Hydroponic Fodder automation system is installed at Sinnar Nashik for marginal farmers with the support of Yuva Mitra and ILFS.
- ♦ Poultry farming technique workshop was conducted at Paoolwatt (Pasli, Tal-Velha) campus.
- ♦ Vigyan Ashram has organized open house exhibition of all its work on 30th July 2016 at Pabal. It was visited by around 2000 visitors and including schools students around Pabal.
- ♦ Vigyan ashram has co-hosted Group Monitoring-cum-Consultation Workshop (GMCW) of DST core support group in Pune during 13-14th May 2016.



Rice De-husking machine developed for brown rice production.

Vigyan Ashram has participated in the following technology exhibitions:

- TEDx Pune – 2016 on 26th November in Pune.
- Unnat Bharat Abhiyan (UBA) exhibition at New Delhi and 2nd IISF program on 11th December 2016.
- Science Exhibition – Giant Metro Radio Station, Khodad (Pune) 28th February.

We are communicating our work through social media platforms –

- Updates Technology development & field trials : www.vigyanashram.wordpress.com viewed by 28680 individuals.
- DST Core support group’s activities are updated on www.dsttara.in viewed by 14296 individuals.
- Open Educational Resources (OER) are developed and published on www.learningwhiledoing.in
- Vigyan ashram pabal campus & training programs updates <https://www.facebook.com/vigyan.ashram.pabal/>

E] Design Innovation Center :

Vigyan ashram has started 'Design Innovation Centre (DIC)' in collaboration with Savitribai Phule Pune University (SPPU). The courses are in the area of agriculture , product design , sensor & signaling technology, water and waste management. During 2016-17, 32 students participated in DIC program. We also provided 6 month research fellowship for 8 students to work on various technology development projects. More details of DIC courses & projects available on www.vadic.wordpress.com

F] Entrepreneurship Accelerator program :

This is third year of Entrepreneurship Accelerator program with the support of NSTEDB (National Science and Technology Development Board) under STED (Science and Technology based Entrepreneurship Development) scheme. Following are the achievements of the year 2016-17 -

- We have supported 32 youths to start their enterprises. We have conducted training for 119 potential entrepreneurs in preparing business plan.
- Vigyan Ashram helped 6 entrepreneurs to get micro finance loan from RangDe. Collective loan amount was of Rs.5,20,000/.
- Total of 4 budding entrepreneurs were supported with 6month fellowship during this year. They were provided mentorship and also opportunity to sharpen their skills. The fellowship programme is supported by Praj Foundation (Pune) under 'Technology Incubation Cum Entrepreneurship Development' (TIED) project.
- We have conducted following Entrepreneurship awareness program :

DBRT Alumni and Ex-Staff Mr. Anil Gadhe started engineering workshop M/S Future innovation systems in Pune. After been 8 years in Vigyan Ashram he decided to become entrepreneur. Now he manufactures Domestic Egg Incubator, Rice De-Husking machine etc. We wish him all the best for his business.

S.No.	Name of Program	No. of Attendees
1.	Entrepreneurship Awareness Camp "Idea to Rural Startup" @ ITI Ghodegaon	50
2.	Awaness Camp "Entrepreneurship and Startup Mission" at CT Bora College	250
3.	Self-employment opportunity workshop at Vigyan Ashram Pabal	51

G] Infrastructure Update :

Following important infrastructure development work has been undertaken at Pabal campus during 2016-17.

- A technology demonstration center – Techno Park is established with the support of Department of Science & technology (DST).
- Construction of New class room is in progress. This will be auditorium hall with 160 students seating capacity. We are expecting it to be completed by June 2017.
- Plasma Cutting Machine - Installed at metal fabrication workshop in Vigyan ashram.
- Advanced CAD software & computer lab– We have setup computer lab with all advanced design software. This lab is setup with the support of Solidworks, Fab foundation and SBI life insurance.
- Vigyan ashram's soil micro-biology laboratory got registered under 'Soil Health Card Mission' scheme of Government of India. Under this mission VA will provide soil analysis facility to 4000 farmers/year.



Inauguration of technology demonstration center

H] Awards and Recognitions:

Vigyan ashram received following recognitions / awards during 2016-17 :

- 'Vasundhara Krutdnyata Purskara – 2016 'award given by omkar trust (Pune) on 30th June for skill training & technology transfer program for rural society.
- IBN-Lokmat interviewed Dr.Yogesh Kulkarni in their program DeshYatra. It was telecast on 26th June @ 8- 9 PM. It was repeated on Sunday as well. It is available on u-tube <https://youtu.be/CmGierVOMII>
- NIOS Delhi and Doordarshan National Channel made documentary on DBRT program and broadcasted in Krushi Darshan program on 8th December. <https://goo.gl/SgNKou>



New Classroom / auditorium constructed at Pabal campus

I] Staff trainings workshop / Conferences:

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

S.N	Name of training organization/experts	Number of Staff trained	Topic of training
1	FAB12 International Conference on Digital Fabrication at Shenzhen (China) during 8 th to 14 th August 2016.	5	Advanced digital fabrication, prototyping techniques ,
2	2 Days workshop of "Entrepreneurship & crowd-funding" organized by RangDe on 16 th & 17 th March at Bangalore.	1	Enterprise management, microfinance , business planning , cloud funding.
3	Maters training in 'Micro irrigation techniques', 4 days training @ Krushi Vigyan Kendra , Amaravati Maharashtra on 8 th – 10 th Aug.	1	Skill training course in irrigation technician under Agricultural Skill Council of India (ASCI).
4	Conference by Indian Science & Technology Entrepreneurship park and Business Incubators Association (ISBA) on 10 th & 11 th Sept.	2	'Powering start-up enablers' by establishing startup incubation support structure in India.
5	Entrepreneurship Development Program on Micro Solar Dome (MSD) 18 th to 22 nd October 2016 at NBRIT , Kolkata	1	Micro Solar dome training during.

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 2016-17.

Dr.Kishan Bhatia, Mrs Veena Joshi, Shri.M P Kotwal , Shri.Uday Kukade , Dr.Sudhir Prabhu, Shri.Gurunath Kolhatkar, Dyriga 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 , 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 Mrs.Mira Kalbag, Mr.Ashok Kalbag, Mr.Vijay Kumar, Mr.Sunil Kulkarni, Mr.Pravin Mahajan, Dr.Aruna Giri and Dr.Yogesh Kulkarni. The management committee meetings were held on 19th June, 24th Oct, 7th Jan, 26th March 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.

We are acknowledge support of various volunteers, IBT Schools, R & D institutes, students, alumni, staff members and Pabal villagers for their continues support and love.