



**Vigyan Ashram
Technologies Foundation
(VATF)**

Annual Report: 2023-24

**Vigyan Ashram Technology Foundation
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Introduction

Team, Vigyan Ashram Technology Foundation (VATF) is glade to present 3rd annual report. We are proudly promoting and scaling up Dr. Kalbag's vision of 'Rural Development through Education System' (RDES) and innovations in the areas of education, technology and rural development. With completion of 3 Yrs operations, VATF started procedure for application Foreign contribution (Regulation) Act (FCRA) as per government regulation.

During 2023-24, VATF provided skills training to 50 rural youth in DBRT program, incubated 56 new rural enterprises and trained 165 IBT program instructors. We also worked on various innovative technologies like solar dome dryer, e-rickshaw sugarcane juicer, Black Soldier Fly (BSF) composting etc.

We are thankful to our stakeholders including end-user beneficiaries, grassroots organizations, investors and donors for their encouragement and support for conducting various community services.

Following are highlighted activities / projects implemented by VATF during past 1 year.

A] Skill Training of Rural Youth

Diploma in Basic Rural Technology:

Diploma in Basic Rural Technology (DBRT) is a residential skill training program based on the philosophy of '**Learning while Doing**'. It is multi-disciplinary training course with emphasis on developing self-employment at local level. It is a yearlong program. To know more on program structure please visit – <https://vigyanashram.online/project/diploma-in-basic-rural-technology-dbrt/>

VATF supports implementation of DBRT program while promoting technology based rural entrepreneurship. During 2023-24, VATF supported 50 DBRT students with hostel and food facility. Students hands-on training practical in agricultural section was conducted on VATF farming land while workshop, electrical & food processing practical's VA-IIE facility. VATF also provide post-training hand-holding & enterprise incubation support to DBRT students.

Instructor / teachers training program:

VATF provides Train-The-Trainer (TTT) support to Atal Tinkering Lab (ATL) and Introduction to Basic Technology (IBT) program instructors. These programs are based Science Technology Engineering & Mathematics (STEM) philosophy of education. During 2023-24, a skill training support was provided to 165 Introduction to Basics Technology (IBT) instructors at Pabal campus. The training includes hands-on skills in digital fabrication, food-processing, agriculture & animal husbandry, energy & environment, metal fabrication skills. VATF also provided technical consultancy in implementation of design-thinking methodology, on-field mentoring and lodging-boarding facility for training.

STEM education-based training & content development:

- VATF collaborated with Pratham Education Foundation for providing STEM based hands-on learning experience to underprivileged school students. A 2 days residential training workshop for higher primary grade (6th to 8th) students was conducted during 4th to 10th March. Total of 55 students from 3 different schools of Pune Municipal Corporation schools participated in training. They learnt application of science while making card-board toys, hydraulic crane, grabber etc.
- A work of developing activity-manual for STEM education-based activities for class 6th to 8th standard students is started in collaborated with United India (New-Delhi). Students learning activities are designed as per National Curriculum Framework-2023 (NCF) vocational education framework. Total of 30 activities will be designed by VATF team based on "Working with Living Forms," "Working with Materials and Machines," and "Working with Human Services," theme. Manual will also have 10 additional activities on electronics, Artificial Intelligence (AI), renewable energy, software coding etc for 9th & 10th standard students.

Entrepreneurship Development Trainings (StartUp Sarathi):

Entrepreneurship Development Program (EDP) is one the important activity of VATF. EDP provides training & post-training support to rural youth through a brand name of 'StartUp Sarathi'. During 2023-24, total 56 new enterprises were incubated by EDP section. Pre & post training support including technology awareness webinars, hands-on skills training, on-field mentoring & technical assistance, enterprise registrations/licenses, social media promotion, branding & marketing linkage, fundraising etc. Details of success stories can be found on <https://startupsarathi.vigyanashram.online/>



'Startup Sarathi' brand achieved land-mark social media followers with 10K + followers on Facebook. <https://www.facebook.com/startupsarathiva>

VATF conducted 16 on-campus & 12 on-field trainings benefiting 940 youth during 2023-24. Here is a snapshot of EDP initiatives is given below:

EDP initiative	Performance indicator	Number of beneficiaries
Establish rural enterprises	Number of enterprises supported	56
On campus hands-on skills training Program	Number of technology orientation training programs	16
Number of participants in skills training	Number of youths participated in 17 training programs	177
Total number of on-field demonstrations & webinars	Number of youths participated 12 on-field trainings & webinars	763
Hand-holding & incubation support beneficiaries	Number of enterprise supported with licencing / enterprise registration facility	41

List of the EDP training program during 2023-24:

SN	Training	Date	No. of Participants
1	Ice Creme Kulfi	06-07 May 2023	10
2	Poultry Training Campus	15-16 May 2023	10
3	Khakra Chikki Campus	20-21 May 2023	11
4	Phenyl Handwash training	4 May 2023	1
5	Sliding window door lamination	04-05 Jul 2023	9
6	Milk Processing	19-20 Aug 2023	10
7	Poultry disease management	20 Aug 2023	20
8	Millets Processing	16-17 Sep 2023	16
9	Raintree Foundation Velhe	10-11 Oct 2023	12
10	Solar PV installation	20-21 Oct 2023	10
11	Millets Training	25-26 Nov 2023	12
12	Solar PV installation Pabal	16-17 Dec 2023	10
13	Millets Training	6-7 Jan 2024	21
14	Milk Processing	2-3 Mar 2024	11
15	Electrical & Metal fabrication	14-22 Mar 2024	10
16	Millets Processing	9-10 Mar 2024	4

Some of the highlighted skills training activities:

Poultry farming training: VATF has collaborated with 'Raintree Foundation' (Pune) for on-field technology & training support to 'back-yard' poultry farming based livelihood generation of 9 villages in Sakhari region of Velhe block in Pune district. With the success of 1st years interventions program is adopted by 84 Economical Weaker Section (EWS) farmers and 14 personnel with disabilities in region. During 2023-24, total of 6 on-field training program & field demonstrations was conducted.

Faculty Development program: VATF collaborated with Maharashtra State Faculty Development Academy (MSFDA) for conducting Faculty Development training Program (FDP) for professors & teachers of higher educational institutes. The 1st training program for college faculties was conducted at Pabal campus during 12th to 16th February 2024. Training was attended by 19 faculty members from various colleges of Maharashtra state. Training was based on implementation of Design Thinking and Entrepreneurship Development methodology as per goal of National Education Policy (NEP). Faculties encouraged to conduct empathy survey, apply science & engineering concepts, build prototype through hands-on activity sessions.

Food processing enterprises trainings: StartUp Sarathi, has partnered with Agrozee Organics Pvt Ltd and Kunjir-Dairy farmers for providing skills training & emperies incubation support in millet & dairy processing respectively. During 2023-24, 3 trainings on millet-based products & 2 trainings on dairy product manufacturing were conducted with partners. Training was attended by 59 aspiring entrepreneurs while learning processing techniques directly on shop floor of industry.

We are thankful to Praj Foundation (Pune) and other grassroots organizations for providing financial support for skill training & EDP training programs.

B] Technology Development and Field Testing:

During 2023-24, VATF worked on field-testing and prototype development various technologies. Solar dryer, E-Rickshaw based sugarcane juicer, Black Soldier Fly (BSF) field trials etc are some of these technologies.

Following are some of the technology piloting activities as:

Solar dryer development:

Solar grape dryer for raisin making:

A forced air solar grape dryer is fabricated & tested at Pabal campus in April 2024. Our alumni Mr.Ameya Kulkarni (ICT, Mumbai) fabricated it as his doctorate research project. The work is financially supported by Marathi Vidnyan Parishad. The dryer has forced air flow and improved design parameter for faster & efficient drying of grapes. The trial with 2.5 tons of grape's loading was conducted from 2nd to 13th April. During the trial, grape moisture content was reduced from 84% to 16% in an 11-day span (with 3 days of rainy spell, which extended drying time by 3 to 4 days) to make raisins. Experiments showed this system can reduce drying time by 45% as compared to commercial drying practices. Raisins produced are of golden-green colored & electricity consumption was 2.5 kVA per batch. The data will be very useful for solar drying technology development in future.

Solar dome dryer for vegetable drying:

VATF completed, design & fabrication of solar dome dryer against order from women Self-help group (WSHG) M/S Maa Annapurna Enterprises (At.Post Ozar, Nasik). The dryer is useful for fragrance herbs, spices and heat sensitive vegetables with 25 kg loading capacity (13 feet diameter dome). The WSHG is using it for Mint, Tulsi, Moringa leaves etc drying with satisfactory drying efficiency.

E-Rickshaw based Sugar cane juicer:

A 1st Proof-Of-Concept (POC) for E-rickshaw sugar-cane juicer is successfully developed and showcased at IISC Bangalore on 14th December. The POC is developed for Mr. Nitin Krishnan (MSME-CoE incubate). It has 48 V (100 Amp) lead

acid battery (for mobility) and 24 V (240 Amp) lithium-ion battery pack for DC sugarcane juicer. It can process 30 kg sugarcane to serve fresh chilled juice in most hygienic condition.

Black Soldier Fly (BSF) rearing field trial:

VATF signed a MOU with Rajgurunagar Municipal Council (Pune) and Pratheen Eco Solution LLP for field demonstration of Black Soldier Fly (BSF) technology of waste recycling. BSF larvae feed on bio-waste to produce protein rich animal feed. Its one of the most sustainable & economical viable technology for waste management. VATF will conduct field-demonstration trial of BSF for standardization & dissemination of technology.

C] Infrastructure development and conference:

Construction of new training hostel work with 2000 Sq ft build-up area completed in 2023-24. The hostel has bedding facility for 20 trainees with attached WC unit, a pantry facility and dormitory hall. During 2023-24, work of electrification, plumbing, water proofing, bed fabrication etc work is completed.

VATF uses auditorium facility of VA-IIIE. For improving training quality, a mike & spiker system is installed in auditorium classroom. Similarly, a 'interactive TV screen' is also installed in training-classroom.

D] Conference, publications and awards:

STARS Forum Annual conference: A 14th annual conference on 'Building Scalable, Sustainable Social Enterprises - What works, and what doesn't' was co-organized by VATF, STARS Forum and Goat Trust (Lucknow) during 7th & 8th December at Lucknow. The conference was attended by 97 participants from various social organizations (NGOs, social enterprises, schools etc) to learn & discuss best practices & challenges in establishment social enterprises model.

Book publication: A Marathi book 'Kahani Pabal chya Vigyan Ashrama chhi' (कहाणी पाबळच्या विज्ञान आश्रमाची) written by Dr.Yogesh Kulkarni is published by 'Samakalin Prakashan'. Book is based on rural development philosophy of Vigyan Ashram (VA).

The book is formally released by the hands of Padmashri Dr.Arvind Gupta on 8th October 2023. VATF contributed in printing & distribution of the book. We are very thankful to Mr.Gajanan Deshpande for providing financial support for printing & distribution of books.

Awards:

- VATF won a Marathi Vigyan Parishad (MVP) 'S.T.Taskar' for best contribution in science & technology dissemination.. The award is given by the hands of Pandmabhushan Dr.J.D.Joshi on 30th April 2023. Award comprises of memento & award money of Rs.100000.00. We are very thankful to all our supporters & well-wishers.
- VATF won a 1st price of 'Swatch Technology-2023' award for its LPG based Sanitary Pad Incinerator technology solution. The award is given by Shri.Shekhar Sing, commissioner of Pimpri Chinchwad Municipal Corporation (PCMC) on the occasion of Maharashtra Day on 1st May 2023. Award comprises of certificate & Rs.41000.00.
- A Precision Foundation (Aurangabad) awarded VATF with 'Swargiya Subhas Rajiv Shah Smruti Purskar' on 3rd November. Renewed social worker & founder of SEARCH organization Dr. Abhay Bang presented award comprising a memento & award money of Rs.200000.00 for contribution in vocational training & rural entrepreneurship.

E] Financial statements: attached separately

Acknowledgement:

VATF is progressing towards its mission with support of well-wishers and dedicated team members.

We are thankful to our Company Secretary Mr. Prasad Jahagirdar and Chartered Accountant CA Minal Kulkarni. We are also thankful to our donors and CSR partner especially M/S Praj foundation (Pune), partner organization Pragati Pratishtan (Jahwar) and many individual donors like Mr.kishor Tamboli, Sunil Bhondge, Manoj Mokashi, Gajanan Deshpande, Mrs.Vidya Arvind Kasargod, Mrs.Anita Dandekar, Mr.Raghunath Bharsakale, Mr.Bhagvan Thakre, Miss.Archana Barsakale and many other partner organisations, besides students for their continual support.