

Unnat Bharat Abhiyan 2.0 Project Completion Report for Village Dabha

**1. Project Title: Environment Controlled, Automated Green House
For High Valued Agro Produce In Vidarbha Region**

2. Project Co-coordinator: Dr. Ujwala A. Kshirsagar, HoD
(EXTC dept.) HVPM's CoET Amravati

3. Project Co- Co-coordinator: Mr. Ashish B. Kharate,
Assistant Professor, HVPM's COET
Amravati.

In coordination with 13 Final year students of EXTC Department:

Shubham V.Kinhikar, Hrushikesh R.Sapkal, Vishal R. Kukade, Shahod
Noor Shaikh, Udit Mishra, Priyanka D. Chonde, Pragati S. Umekar, Diksita
S. Borekar, Diksha H. Raut, Ramesh S. Gajbhar, Pratik S. Gawande, Shyam
D. Nale & Mohammad Saad Hussain

4. Objectives of the Project:

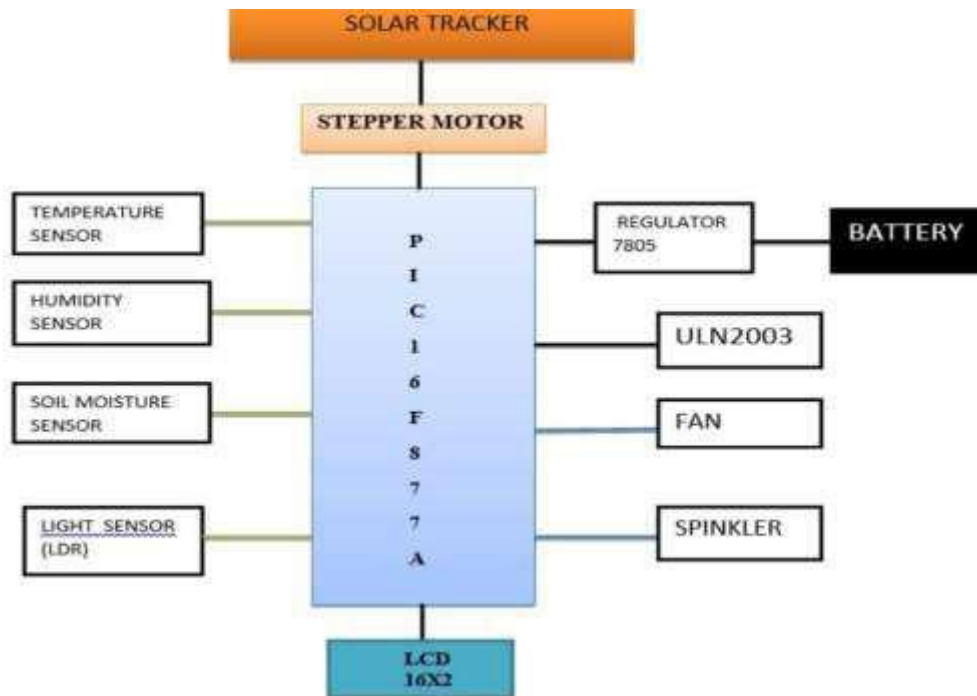
- To develop Environment controlled, automated Green House
As per requirement of Agro produce with electronics
Embedded system
- To produce good quality high valued agro produce
like Strawberry, peas & Squash.
- To make use of technology for rural development
- To make greenhouse independent on electricity, natural
rainfall and man power
- To make Low cost implementation
- To improve economy of farmers in Vidarbha Region
- To strengthen the economy in rural areas which
will ultimately help to develop economy of
India

5. Date and period of approval: 24th October 2018

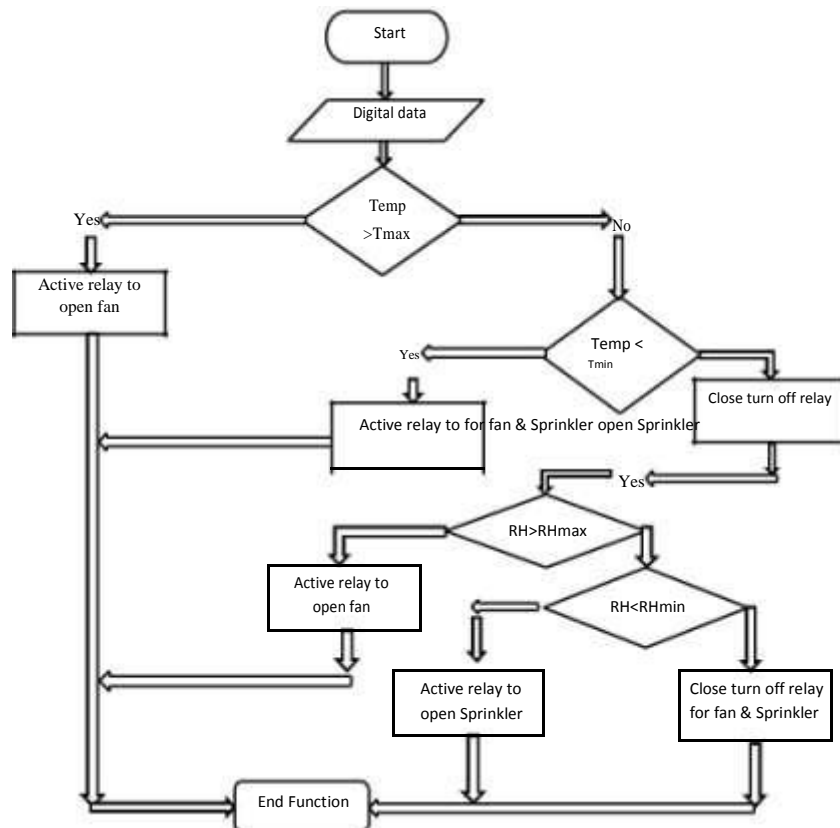
6. Date of implementation: 7th October 2018

7. Date of Completion: 9th March 2019

8. Methodology :



Flow Chart for Relay



Time Line of Project

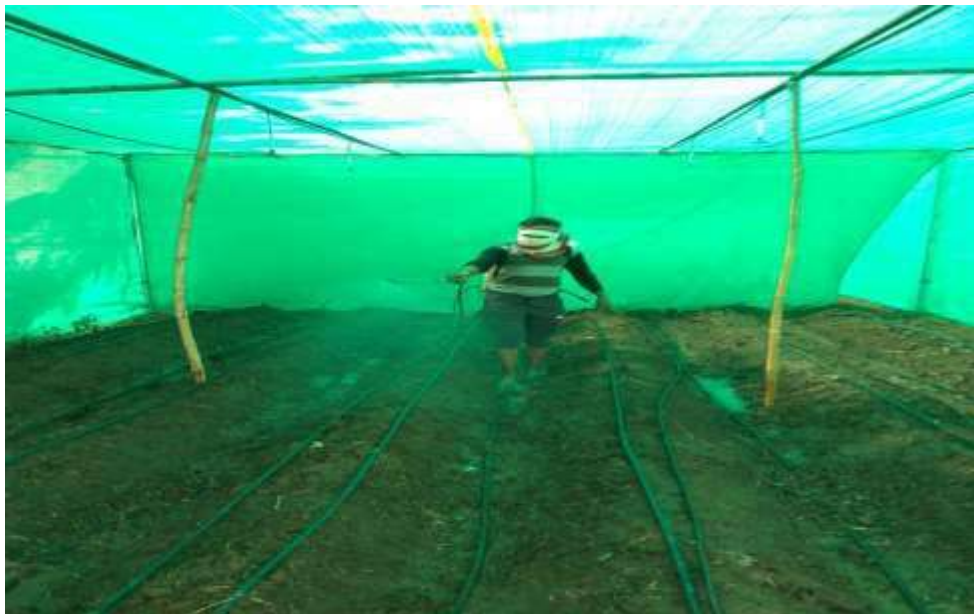
1	Submission Of Proposal to UBA, IITD	03/10/2018
2	nd 2 Meeting with District Collector & Sarpanch for land acquisition (1 Acre Land In Dhaba)	05/10/2018
3	Team formation for implementation of project	06/10/2018
4	Green House Development	07/10/2018
5	Embedded System Development	08/10/2018
6	Soil Testing (3 Times)	10/10/2018
7	Drip System Implementation	15/10/2018
8	Fogger Implementation	17/10/2018
9	Water & Electricity On Rent	19/10/2018
10	Sanctioning Of Proposal	24/10/2018
11	rd 3 Meeting with Collector to grant Solar Panel & Pump for project	26/10/2018
12	Plantation Of Strawberry and other high valued fruits	29/10/2018
13	Testing of Automation & Environment Controlled Embedded System	03/11/2018
14	Quality Testing and Marketing of Product Commercialization of Technology	15/1/2019
15	Patent and Paper Publication and Presentation of Role model of project to all adopted Villages	30/4/2019

9. Process Developed:

- Green House Development



- Soil Testing and generation



- **Implementation of Dripping and Fogger System**



- **Testing of Embedded System Panel for Automation of Environment Controlled Green House**



- **Plantation of Strawberry**



10. Salient Research Achievements:

Environment controlled automated green house controlled all the physical parameter like humidity, moisture & temperature. As per the data generated by embedded system average value of humidity is set to 45, moisture to 90 and temperature to 25 same as required for plants. Following table shows the samples of regular reading obtained on LCD display of our embedded system

Observation Table: To show condition of plants and Environment by measuring temperature, humidity & moisture generated from environment controlled automated green house

Date	Time	Humidity	Temperature In Degree	Moisture	No Of Fruits	No Of Plants	Condition Of Fruits	Condition Of Flower
30/1/19	09:30AM	41	28	92%	34	180	GROWING	AVERAGE
30/1/19	14:00PM	39	29	90%	34	180	GROWING	AVERAGE
30/1/19	18:45PM	48	23	92%	34	180	GROWING	AVERAGE
31/1/19.	11:30AM	64	25	92%	34	180	GROWING	AVERAGE
30/1/19	15:00PM	64	26	92%	34	180	GROWING	AVERAGE

01/2/19	09:30AM	41	27	90%	34	180	GROWING	AVERAGE
01/2/19	16:00PM	44	28	91%	38	180	GROWING	AVERAGE
05/2/19	10:30AM	40	27	90%	57	180	GROWING	AVERAGE
05/2/19	19:00PM	46	23	90%	57	180	GROWING	AVERAGE
06/2/19	11:00AM	41	28	91%	57	180	GROWING	AVERAGE
06/2/19	17:00PM	44	25	91%	57	180	GROWING	AVERAGE
07/2/19	10:00AM	41	27	93%	59	180	GROWING	AVERAGE

Cost benefit analysis:

For one kind of fruits like strawberry

Capital Investment: Rs. 1800000/-

Fixed cost @ 10%:Rs. 180000/- per annum Rs. 45000/- per : Season

Total cost = Fixed cost + Variable cost

Per plant variable cost = Rs. 12 (Cost of Plant) + Rs. 2 (Transportation) + Rs. 120 (Labor charge) + Rs.8 (Electricity) + Rs. 2 (Other expenses) = Rs. 144

Therefore Total cost for 300 plants = Rs. 45000+ Rs (300*144) = Rs. 88, 2000/-

Total cost incurred from 300 plants = 300*600= Rs. 180000/-

Therefore Net PROFIT = Rs.180000 – Rs.88,200 = 91,800/- (Achieved more than 100% profit Gain) Per season.

Total profit per annum for three kind of fruits =>

91800*3*3 = Rs.8,26,200/- against amount invested Rs.180000/-

Payback period = 18,00,000 / 8,26,200 = 2.17 Years

11. Product Developed:

Successful Implementation of Double layered Environment Controlled Automated Green House



12. Production of High valued agro produce

i) Strawberry:



ii) Peas:



iii) Sqash:



Inauguration of the project was done on 9th March 2019 By the Hands of Hon. Vice Chancellor of SGB Amravati, University in presence of Hon. Regional Coordinator Dr. Archana Barabde, Director Dr. S.P. Chendke, and Principal Dr. A.B.Marathe. Sarpanch of ALL adopted villages & farmers were present. Presentation of this role Model to improve the economy of farmers was given by students. Dr. Murlidhar Chandekar whole heartedly said that this projects has changed the definition of Education. All the chief guest, guest of honors, all heads of department and villagers appreciated the project. Felicitation of Mr. Narayan Vaidya for giving greenhouse on rent, Mr. Namdeorao Tembhurne for providing electricity on rent and Mr. Pankaj Laddha for proving water alongwith Upsarpancha of Dabha was done.

Inauguration of project



13. Conclusion:

Successfully implemented Environment controlled automated Green house with embedded system developed with PIC controller PIC16F877A. Proposed greenhouse maintained condition of temperature, moisture and humidity as per the requirement of product.

A very tasty, colorful, juicy, dense and good quality strawberry product is possible with automated, environment controlled Green house in Vidarbha region.

Three times different kinds of agro produce can be cultivated within one year with Mentioned Green house. Hence proved, this project is nothing but one time investment all time gain.

This project is a role model for all the farmers in Vidarbha region to take such kind of initiative to cultivate high valued agro produce independent of natural environmental calamities and strengthening his economy which will strengthens the economy of India.

14. Feedback from consumer/User

Type of consumer	Remark / comments	Conclusion
Padmshree Prabhakar A. Vaidya, Hon'ble, General Secretary, HVPM	Shabbas..., To much delightful to taste the strawberries developed by my own students as a part of your project at Dabha. Proud of you all.	Because of good quality and sweet & juicy taste, proposed strawberries will always being on demand at high cost.
Dr. Harshwardhan Deshmukh, Hon'ble President Shivaji Education Society, Amravati	First time in Amravati, Organic strawberries as well as product of peas & squash has been taken under development of environment control automated green house. Strawberries are delicious and tasty. Congratulations to all of you.	
Dr. A. B. Marathe Hon'ble Principal of HVPM COET, Academician	Size, color, smell & test of strawberry is excellent. I never tested such aromized strawberry before	
Mrs. Bharati Wasule, Industrialist, MIDC, Amravati	Strawberries appearance is very beautiful and dense and juicy inside. Strawberry is very sweet & tasty	
Mr. Jagmalani, Whole sale fruit Marketer	First time saw such a fresh & good quality strawberry. I am ready to consume your all strawberries	

Achievements:

- Students of this project got one year internship on rural development sponsored by MHRD with Stipend of Rs,18,000/-
- One of this team got Startup under Uddyam of MSME.
- First Prize Intercollegiate Project Competition Held at HVPM's College of Engineering & Technology, Amravati



- Submission of our project report to Dr. Vijay Bhatkar



- Presentation of our UBA project in front of Hon'ble Padmshree Dr. Vijay Bhatkar.



- Appreciation of Project by Hon'ble Padmshree Dr. Vijay Bhatkar.



- Appreciation, Discussion & Visit to UBA project By Hon. Vice Chancellor of SGB Amravati University Dr. Murlidhar Chandekar at Dabha



First Prize of Annual National Project Competition-2019 for SGBAU Startup Fest, received the grant of Rs.300000/-



हव्याप्रमं अभियांत्रिकी में स्ट्राबेरी की खेती

अमरावती (का). हनुमान व्यायाम प्रसारक मंडल द्वारा संचालित अभियांत्रिकी महाविद्यालय में विद्यार्थियों की संकल्पना से साकार स्ट्राबेरी खेती कृषि क्षेत्र को नवसंजीवनी और नया दृष्टिकोन दे रही है. उन्नत भारत अभियान अंतर्गत हव्याप्रमंडल अभियांत्रिकी महाविद्यालय अनेक महत्वाकांक्षी प्रकल्पों का सफल कार्य कर रहा हैं. बडनेरा शहर से कुछ दूरी पर दाभा गांव के करीब स्ट्राबेरी खेती प्रकल्प साकार किया गया है. उपाध्यक्ष व महाविद्यालय के संचालक की पहल तथा प्राचार्य ए.बी. मराठे के मार्गदर्शन में बीते साल दिसम्बर में स्ट्राबेरी प्रकल्प शुरू किया गया था. इलेक्ट्रानिक्स एंड टेलिकम्यूनिकेशन विभाग प्रमुख व प्रकल्प प्रमुख डा. उज्वला क्षीरसागर, प्रा. आशीष खराटे के मार्गदर्शन में 13 अभियांत्रिकी विद्यार्थियों ने 3 माह में स्ट्राबेरी प्रकल्प साकार किया. विशेष बात यह है कि स्ट्राबेरी की खेती महाराष्ट्र में चूनिंदा गांवों और मौसमी माहौल में की जाती है.



62 किलो स्ट्राबेरी की फसल उगाही

यह नकद फसल किसी अन्य क्षेत्र में न होने के दावा किया जाता था. तकनीकी ज्ञान के माध्यम से कोई भी फसल ली जा सकती है, यह अभियांत्रिकी विद्यार्थियों ने सिद्ध कर दिखाया है. ठा. माह में 62 किलो स्ट्राबेरी की फसल ली गई. हा. ही में कुलगुरु डा. चांदेकर के हाथों प्रकल्प व उद्घाटन किया गया. इस अवसर पर मंच पर डॉ. श्रीकांत चेंडके, प्राचार्य मराठे, रजिस्ट्रार एस. व. ढोले, प्रकल्प प्रमुख डा. अर्चना बारबदे आ उपस्थित थे. प्रकल्प में सहयोग देनेवाले खेती मालि नारायण वैद्य, बिजली सेवा देनेवाले होटल व्यवसा नामदेव ठुगुरने, दाल मिल के संचालक पंक लडढ्ढा, खाद आपूर्ति करने वाले रवि वाट आदि व सत्कार किया गया.

प्रकल्प को सफल बनाने में शुभम किन्हीकर, ऋषिके सपकाल, विशाल कुकडे, प्रगति उमेकर, दीक्षिता डोरेकर, दीक्ष राऊत, रमेश गजबार, प्रतीक गांवडे, श्याम नाले, शहीद शेख मो. शाद हुसैन आदि ने योगदान दिया.

काही युवकांनी धारदार शस्त्रांन
जोरदार हल्ला केला होता. या
हल्ल्यात व्यास यांच्या डोक्याला
गंभीर दुखापत झाली होती.
मंगळवार सायंकाळी ५ च्या सुमारास

व हर्षल महल्ले या दोन आरोपींना
घरून अटक केली. अन्य दोन फरार
आहेत.ठाणेदार सोनवणे यांच्या
मार्गदर्शनात विजयसिंग बघेल,मंगेश
लकडे, सागर कदम शोध घेत आहे.

अंमलबजावणी करण्यासाठी
राजकीय पक्षाच्या प्रतिनिधींसह
सर्व घटकांनी सहकार्य करावे, असे
आवाहन विभागीय आयुक्त पीयूष
सिंह यांनी केले. जिल्हाधिकारी

नवाल, उपजिल्हा
अधिकारी शरद
उपस्थित होते. विभाग
जिल्हातील निवडण
माहिती घेऊन सू

दिव्य मराठी विशेष • कुलगुरू डॉ. चांदेकर यांच्या हस्ते प्रकल्पाचे उद्घाटन

अभियांत्रिकी विद्यार्थ्यांनी फुलवली

प्रतिनिधी । अमरावती

स्थानिक श्री हनुमान व्यायाम
प्रसारक मंडळद्वारा संचालित
अभियांत्रिकी महाविद्यालयातील
विद्यार्थ्यांनी नाविन्यपूर्ण प्रयोग
करीत थंड हवेतील पीक घेण्याची
किमया शहरापासून काही अंतरावर
असलेल्या दाभा येथे साध्य केली
आहे. कुलगुरू डॉ. मुरलीधर
चांदेकर यांच्याहस्ते प्रकल्पाचे
उद्घाटन झाले आहे.

बडनेरा शहरापासून काही
अंतरावर असलेल्या दाभा
गावालगत स्ट्रॉबेरी शेती प्रकल्प
महाविद्यालयाने साकारला आहे.
हव्याप्र मंडळाचे उपाध्यक्ष व

अभियांत्रिकी महाविद्यालयाचे
संचालक डॉ. श्रीकांत चेंडके
यांचा पुढाकार व महाविद्यालयाचे
प्राचार्य डॉ. ए. बी मराठे यांच्या
मार्गदर्शनाखाली स्ट्रॉबेरी प्रकल्प
डिसेंबर-२०१८ मध्ये सुरू करण्यात
आला. प्रकल्प प्रमुख इलेक्ट्रॉनिक्स
अँड टेलिकम्युनिकेश विभाग प्रमुख
डॉ. उज्वला क्षीरसागर व प्रा. आशिष
खराते म्हणून कार्य पाहत आहे. तेरा
अभियांत्रिकी विद्यार्थ्यांनी अवघ्या
तीन महिन्यात स्ट्रॉबेरी प्रकल्प
साकारला. विशेष म्हणजे, स्ट्रॉबेरी
पीक ठराविक क्षेत्रात तसेच विशिष्ट
वातावरणामध्येच घेतले जाते. अन्य
कोणत्याही भागात असे नगदी पीक
घेता येत नाही. परंतु, तंत्रज्ञानाच्या



माध्यमातून कोणतेही पीक घेता
येत असल्याचे अभियांत्रिकी
विद्यार्थ्यांनी दाखवून दिले. शेतामध्ये
ग्रीन हाऊस व स्ट्रॉबेरी पीकासाठी
आवश्यक वातावरण निर्मीती आणि
तंत्रज्ञानाचा वापर करण्यात आला.

जानेवारी ते मार्च या अ
महिन्यात तब्बल ६२
विक्रमी स्ट्रॉबेरीचे उत्
आले. अशा प्रकारच
विद्यापीठस्तरावर प्र
असून या प्रकल्पाची द