



NAHEP



**CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR
ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs.**

VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH, PARBHANI (M.S.) INDIA

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NAHEP

THE WORLD BANK



Review Report of FPA

From 01 January, 2020 To 30 September, 2021

Food Processing Automation Portfolio (FPA)



Prepared by

Dr. Avinash Kakade
SRF (FPA), NAHEP-CAAST DFSRDA,
VNMKV, Parbhani

National Agricultural Higher Education Project

**CENTRE OF EXCELLENCE : DIGITAL FARMING SOLUTIONS FOR ENHANCING
PRODUCTIVITY BY ROBOTS, DRONES AND AGVS**

**Vasanthrao Naik Marathwada Krishi Vidyapeeth Parbhani,
Maharashtra (INDIA)**

<https://nahep.vnmkv.org.in> & <https://nahep.vnmkv.org.in/fpa/>



1. About Food Processing Automation :

- India's food ecosystem offers huge opportunities for investments with stimulating growth in the food retail sector, favorable economic policies and attractive fiscal incentives. The food & grocery market in India is the sixth largest in the world. Food & grocery retail market in India further constitutes almost 65% of the total retail market in India.
- Food Processing includes process under which any raw product of agriculture, dairy, animal husbandry, meat, poultry or fishing is transformed through a process (involving employees, power, machines or money) in such a way that its original physical properties undergo a change and the transformed product has commercial value and is suitable for human and animal consumption.
- An introduction of high-tech food processes such as automation in food materials harvesting, handling, processing, packaging, storage, transportation and distribution to increase the quality, yield, diversity of products and also to enhance their shelf life.

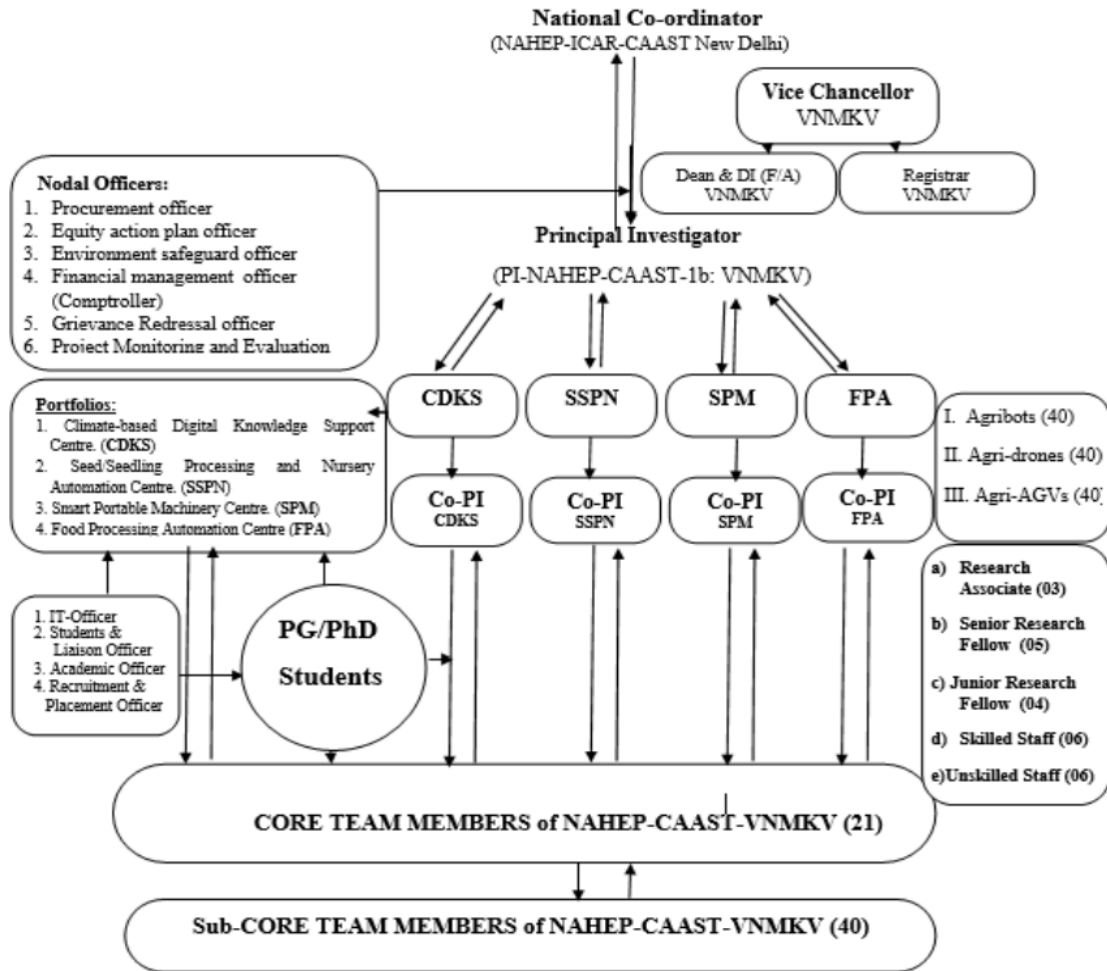
2. OBJECTIVE:

1. Establishment of advanced engineering hardware and software setup for Mechatronics, CAD/CAM/CAE, 3-D printers and instrumentation laboratory to support application of Agri-Bots, Agri-Drones and Agri-AGVs in food processing industry.
2. Strengthening of PG and Ph D courses in food processing automation by offering three elective/ certificate courses on Robotics, Drones and AGVs and their applications in Food Processing.
3. Development of case studies/ projects on application of Agri-Bots, Agri-Drones and Agri-AGVs in food industry.
4. Skills development of UG/PG/ PhD students and Faculty of University through academic research in food processing automation.
5. Establishment of University- Industry interface at national and international level for increasing employment opportunities.
6. Exposure to the PG and PhD students with the applications of Agri-Bots, Agri-Drones and Agri-AGVs in food processing.
7. Development of practical applications of advanced techniques in fruit and vegetable processing.



❖ Organisational Structure of NAHEP-CAAST-DFSRDA,VNMKV,Parbhani.

Organisational Structure of NAHEP-ICAR-CAAST-VNMKV Parbhani



**NAHEP**

World Bank Group

**CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR
ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs.****VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH, PARBHANI (M.S.) INDIA**Contact No. 02452_223002, 223802 Mob. 9422111232 Email: nahep.caast.vnmkv@gmail.comwww.vnmkv.org.in ; www.nahep.vnmkv.org.in**❖ Point No. 4,5 and 6.****ACTIVITIES and EVENTS Conducted during 1st Nov. to 15th Nov. 2019**

1. **1. 1. 2019:** Brain storming workshop for the Digital Application in community Science for researcher faculty, students participant at College of Community Science VNMKV Parbhani.
2. **4.11.2019:** Meetings with Officer in-charge & Head of Department ,faculty and researcher students for deciding the research activities plan and technical specifications of grafting robots in horticultural Science VNMKV Parbhani for nursery automation.
3. **6.11.2019:** Meeting and Discussion with Head of Department, faculty members and researcher students for deciding the research activities plan and technical specifications of grafting robots in entomology science VNMKV Parbhani for CDKS/SPM/SSPM sub Centre. Also to decide the research objectives in PG and PhD research students project
4. **9.11.2019:** Preparation of Procurement plan for plant machinery and equipment and laboratory equipment in CDKS/SSPN/SPM/FPA sub Centre with review and revised specifications as per NAHEP CAAST Objectives.
5. **12.11.2019:** Scrutiny and preparation eligible and not eligible candidates applied for the post for RA, SRF and JRF in NAHEP-CAAST VNMKV Parbhani Centre.
6. **15.11.2019:** Preparation of final list of eligible candidates to appear for RA, SRF and JRF

Post interviews.

Principial Investigator(PI)
NAHEP-CAAST-VNMKV
Parbhani(M.S.) India





- ❖ **Activities and Events Conducted during 1st Dec 2019 to 25th Jan 2020.**
- ❖ 20.01.2020 to 30.01.2020: Organised interviews for Contractual Positions of Research Associate, Senior Research fellow and Junior Research Fellows required for NAHEP-CAAST-VNMKV Parbhani. Similarly, selection orders for the above-mentioned posts were issued.
- ❖ 01.01.2020 to 04.01.2020: Joining of new Contractual Staff like RA/SRF/JRF had been taken place and continuous brain storming sessions and discussion were conducted for better understanding of the objectives and outcomes of the project
- ❖ 10.01.2020: Core Team member of college of food Technology, VNMKV Parbhani, PG students had conducted seminar on Artificial Intelligence.
- ❖ 23/01/2020: Visit to machinery and power engineering & process engineering department. Differentiated between 3DR Aero Matric 600 and DJI 3DR, Prepared final draft of administrative sanctions to be signed, Collection of contact numbers from P. G /Ph.D. students. Meeting with Dr. Khodke sir, Meeting with honourable vice chancellor of VNMKV PARBHANI, request for quotation regarding computers, Syllabus for certified course soil water and plant analysis, Automation in FPA research papers is downloaded.
- ❖ **Activities and Events Conducted during 01 Jan 2020 to to 17th March 2020.**

Sr.No	Event Date	Event & Activities are Organized/Co-ordinated	Photo																																				
01	24/01/2020	Published the Advertisement for skilled and unskilled vacancies in ROBOTS/DRONES/AGV's Sub-centre positions on contractual/temporary basis on VNMKV Advertisement and NAHEP VNMKV Portal Ref: NAHEP/CAAST/VNMKV/77 / 2020 Date: 24/01/2020	 <p>The details of the post and required qualifications are given below:</p> <table border="1"> <thead> <tr> <th>Sr.No.</th> <th>Name of the Post</th> <th>Name of the Post No. of Posts and Pay</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Junior Engineer (Agriculture/Engg./Food Technology)</td> <td>01 Consolidated Pay (Rs.) 20,000/-</td> <td></td> </tr> <tr> <td>02</td> <td>Junior Engineer (Computer Sciences and Engineering)</td> <td>01 Consolidated Pay (Rs.) 20,000/-</td> <td></td> </tr> <tr> <td>03</td> <td>Junior Engineer (Mechanical Engg.)</td> <td>01 Consolidated Pay (Rs.) 20,000/-</td> <td></td> </tr> <tr> <td>04</td> <td>Junior Engineer (Electrical)</td> <td>01 Consolidated Pay (Rs.) 20,000/-</td> <td></td> </tr> <tr> <td>05</td> <td>Junior Engineer (Electronics)</td> <td>01 Consolidated Pay (Rs.) 20,000/-</td> <td></td> </tr> <tr> <td>06</td> <td>Account Assistant</td> <td>01 Consolidated Pay (Rs.) 20,000/-</td> <td></td> </tr> <tr> <td>07</td> <td>Office Assistant/ Computer Operator</td> <td>03 Consolidated Pay (Rs.) 15,000/-</td> <td></td> </tr> <tr> <td>08</td> <td>Field Assistant</td> <td>03 Consolidated Pay (Rs.) 15,000/-</td> <td></td> </tr> </tbody> </table>	Sr.No.	Name of the Post	Name of the Post No. of Posts and Pay	Remark	01	Junior Engineer (Agriculture/Engg./Food Technology)	01 Consolidated Pay (Rs.) 20,000/-		02	Junior Engineer (Computer Sciences and Engineering)	01 Consolidated Pay (Rs.) 20,000/-		03	Junior Engineer (Mechanical Engg.)	01 Consolidated Pay (Rs.) 20,000/-		04	Junior Engineer (Electrical)	01 Consolidated Pay (Rs.) 20,000/-		05	Junior Engineer (Electronics)	01 Consolidated Pay (Rs.) 20,000/-		06	Account Assistant	01 Consolidated Pay (Rs.) 20,000/-		07	Office Assistant/ Computer Operator	03 Consolidated Pay (Rs.) 15,000/-		08	Field Assistant	03 Consolidated Pay (Rs.) 15,000/-	
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07	11/02/2020	One day training programme organized by Dr.R.B.Kshirsagar for PG and PHD students of Food Tech by senior guest faculty Mr.Lalit Meisheri IIT B-Tech Chemical Engineering on recent Advances on drying of food commodities	
08	13/02/2020	Mr.Ranjeet Patil, Registrar VNMKV Parbhani visited NAHEP center.	
09	17/02/2020	Mr. Matthias Maiwald from Germany and Dr. Deepak K.G. has visited NAHEP-DFSRDA	
10	18/02/2020	Mr. Anil Pagar , Director, Invensys CAD Solutions demonstrated Presentation on Creo/3D,Printing /Augmented Reality/IOT Technology for Agricultural Science and Engineering and allied science students and faculty.	
11	24/02/2020	1.NAHEP organized Brain Storming Workshop for PG/ PhD students of Extension and Agricultural Economics Department 2. Letters send to all Head under the VNMKV, parbhani for nomination of four students PG (2)/PhD (2) from each department for participation in three days national workshop.	









12	25/02/2020	Redressal of grievances received from the candidates applied for different posts against NAHEP CAAST VNMKV recruitment notification.	
13	25/02/2020	Published the notification on VNMKV/NAHEP Portal regarding Schedule for written Examination and Interviews	
14	04/03/2020	An order has been given to respective recruitment selection committee.	
15	05/03/2020	Recruitment work has been done for scheduled exam 06 - 07 March 2020.	

16	06/03/2020	Recruitment Day 1: document verification, Written exam and interview for the post of Junior Engineer (Electrical, Electronics, Computer Science, Mechanical And Agricultural Engg./Food Technology).	
17	07/03/2020	Recruitment Day 2: document verification, Written exam and interview for the post of Field Assistant	



18	07/03/2020	<p>Selection list published on VNMKV Advertisement and NAHEP VNMKV Portal Ref: NAHEP/CAAST/VNMKV/172 / 2020 Date: 07/03/2020</p>	 <p>The document is a 'Selection List' for the NAHEP/CAAST/VNMKV project. It lists 9 candidates for various posts including Junior Engineer (Agricultural Engg / Food Technology), Junior Engineer (Computer Sciences and Engineering), Junior Engineer (Mechanical Engineering), Junior Engineer (Electrical), Junior Engineer (Electronics), Account Assistant, and Field Assistant. The Principal Investigator is also mentioned.</p>
19	09/03/2020	<p>Dr. D. N. Gokhale DI & Dean F/A, VNMKV, Parbhani visited NAHEP centre for Welcome of new employee and discussed regarding three days International Workshop.</p>	 <p>A group of people, including Dr. D. N. Gokhale, are gathered around a table in a meeting room, discussing the upcoming workshop.</p>
20	13/03/2020	<p>Three days International Workshop on “Digital Farming Practices by Agribots, Agri-Drones and Agri-AGV’s” Day 1: Inaugural function Dignitaries and Experts Lectures : 1. Dr. Siva K. Balasundram, Professor, Department of Agriculture Technology, Universiti Putra Malaysia 2. Chief Guest : Mr.AvinashShirode, National Space Society-Space Ambassador, President NSS (USA) 3. President : Dr. Ashok S. Dhawan, Vice-Chancellor ,VNMKV, Parbhani 4. Prof. R.Machavaram, Agricultural and Food Engineering Department, IIT Kharagpur</p>	 <p>A collage of four photographs showing the inauguration of the workshop. The top photo shows a man speaking at a podium. The middle photo shows a man at a podium addressing a large audience. The bottom-left photo shows a panel of dignitaries seated at a long table. The bottom-right photo shows a man speaking at a podium.</p>



21		5. Prof.A.K.Deb, Electrical Engineering dept. , IIT Kharagpur, Kharagpur	
22	14/03/2020	International workshop Day 2: Expertise: 1. Dr. Dineshsingh G. Thakur, Institute of Advanced Technology, DIAT (Deemed University), DRDO, Ministry of Defence, Girinagar, Pune 2. Dr. OholShantipal Suresh, Mechanical Engineering Department, College of Engineering Pune 3. Mr.SheetalJadhav, Founder and CEO,NellInfotechPvt.ltd. Pune 4.Rahul Chande, ARK Empowering Lives,Mumbai	  
23	15/03/2020	International Workshop Day 3: Demonstration and valedictory function 1.Dr.AjayDeshmukh,Director,Affordable robotics automation ltd (ARAPL) PUNE and treasure of IAIAM Pune 2. Dr.DeepakWaiker,Vice Chair,IEEE Education Society chapter.	 


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3. Mr. AdityaMarathe,
CEO,NUGENIX,Ichalkara
nji
4. Mr.AjeetKharjule ASAP
Agritech,Nashik
Mr.SandeshBhagat,SGGS,
Nanded.
6. Mr. SalimPathan Local
Entrepreneur/Craftman
7. Mr.
Shirale,Entrepreneur/Craft
man
8. Syllabus Discussion
Meeting on Professional
certificate courses for
Agribots,Agri-Drones
Agri-AGVS with Subject
experts and International
workshop resource
persons.

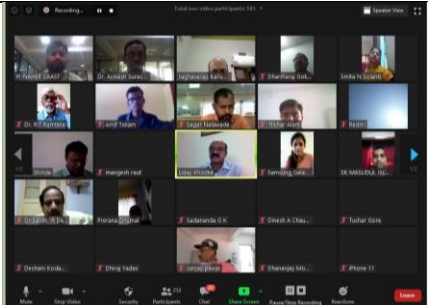



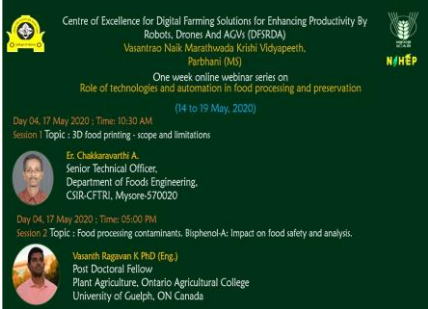


ACTIVITIES and EVENTS Conducted during 18 March to 30 July 2020

25	18/03/2020 to 30/04/2020	<p>1. Attended various personal online certificate courses.</p> <p>2. PG/ PhD students online Trainings Assignments follow-up</p> <p>3. Planning for Webinar e-Trainings and e-Meetings during lockdown conditions</p>	
26	02/05/2020	<p>1.Prepared Faculty Lockdown report about e-Course/e-Training/e-webinar Activities.</p> <p>2. Created Advisory group for mentoring PG/PhD students and Faculty about e-Learning activities on what's app under guidance of NAHEP staff.</p> <p>3. Demonstration of e-learn course</p>	
27	04/05/2020	<p>Conducted Meeting with PI and all CO PI of FPA Portfolios regarding webinar on FPA at department of Food Engg.</p>	
28	08/05/2020	<p>One day webinar organized by Dr. Shyam Graud Co-PI (FPA) on “Enhancing research writing skills of students and scholars: Citations Management” (FPA Portfolio) where 345 total participants are participated</p>	

29	08/05/2020	Meeting conducted with Hon. Vice Chancellor of VNMKV Parbhani at NAHEP office regarding Review of NAHEP work during lockdown period.	
30	09/05/2020	Conducted meeting on the topic of finalizing the FPA Portfolios webinar series from 14 may to 18 may 2020 with PI Sir and FPA Core Team Members	
31	13/05/2020	Meeting regarding One week Webinar series related Food Processing Automation (FPA) portfolio.	
32	14/5/ 2020 to 19/5/ 2020	One Week webinar on “Role of Technologies and Automation in Food Processing and Preservation” (FPA Portfolio) organized by Dr. Shyam Graud Co-PI (FPA), 365 total participants take advantage of this webinar series	
33	14/05/2020	Day 01: Topic 01: Processing and automation for Indian traditional food By- Dr.K Venkatesh Murthy	



34		<p>Topic 02: Opportunities and challenges in food process automation of cottage level industries By- Er.Nitin Aras</p>	
35	15/05/2020	<p>Day 02: Topic 01:An Introduction to FSSAI ACT and Regulations By- Mr. Sanjay Dave</p>	
36		<p>Topic 02: Role of postharvest management in doubling the farmers income By- Dr.Madhav Naidu M</p>	
37	16/05/2020	<p>Day 03: Topic 01:Recent advances in food packaging By- Dr. Rajeshwar S.Matche</p> <p>Topic 02: Non-thermal food processing technologies By- Dr. Pradeep Singh Negi</p>	
38	17/05/2020	<p>Day 04: Topic 01:3 D Food Printing- Scope and Limitations By- Er. Chakkaravarthi A</p> <p>Topic 02: Food Processing contaminants. Bisphenol-A: Impact on food safety and analysis By- Dr. Vasanth Ragavan K</p>	



39	18/05/2020	<p>Day 05: Topic 01:3 Food nutrition awareness in view of Covid 19 pandemic By- Dr. Sridevi Annapurna Singh</p> <p>Topic 02: Functional Foods and their health benefit By- Dr. Ravindra V</p>	
40	19/05/2020	<p>Day 06: Topic: Chromatographic based analytical techniques to ensure Food Quality and Safety Issues By- Dr. Prasanna Vasu</p>	
41	20/5/2020 to 24 /5/2020	<p>One Week Online training on “Recent Trends in Academic Writing” organized by Dr. Santosh Kadam VNMKV Parbhani, where 424 participants are participated.</p>	
42	02/06/2020	<p>One day Krushi Parisavad organized by Dr. Kapse sir on “Soybean Lagwad Technology Parisanvad With Agriculture Minister” where 200 participants were participated</p>	



<p>43</p>	<p>9/06/2020 to 13/06/2020</p>	<p>One-week online Training Programme on “COVID 19 Pandemic: Impact and Strategies in Agriculture Education” was organized by Dr. Veena Bhalerao Core Team member in which 401 participants were participated</p>	<p>The image shows a training poster and a news article. The poster is titled "One Week Online Training on COVID 19 PANDEMIC : IMPACT AND STRATEGIES FOR AGRICULTURAL EDUCATION" and is dated "9-13 June, 2020". It features a "STAY HOME. SAVE LIVES." message with a list of instructions: 1. STAY Home as much as you can, 2. KEEP a safe distance, 3. WASH hands often, 4. COVER your cough, 5. DON'T Coughed. Below the poster is a news article titled "Training on impact of Covid-19 agricultural education organised" from the "LUMSAT NEWS NETWORK". The article reports that an online training program was organized by VNMKV Parbhani on Saturday, June 13, 2020, to discuss the impact of the COVID-19 pandemic on agriculture and strategies for agricultural education. The training was conducted via Zoom and was attended by 401 participants. The program was organized by Dr. Veena Bhalerao, Core Team member, and was conducted by Dr. Marjeet Singh. The article also mentions that the training was organized by VNMKV Parbhani in collaboration with the National Agriculture Higher Education Project (NAHEP) and the World Bank Group.</p>
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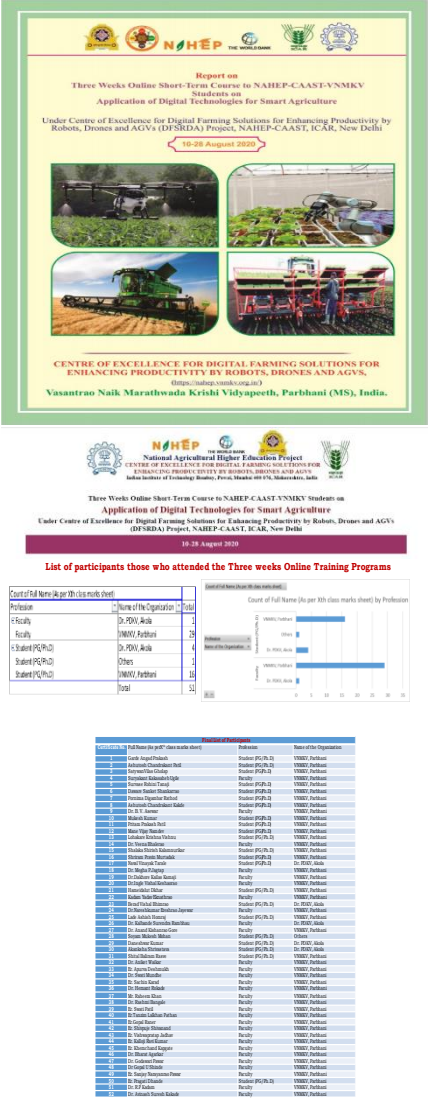


<p>44</p>	<p>25/06/2020</p>	<p>One day online-training program on “Power of Digital manufacturing for new product development-3D printing” organized by Dr. Vishal Ingale where 323 participants were participated</p>	
<p>45</p>	<p>06/07/2020 to 10/07/2020</p>	<p>Dr. Veena Bhalerao (Core Team member) organized webinar Series of one week on “Digital Agriculture Technologies for self-Reliance of farm woman” where 740 total participants are attended the series.</p>	











46	27/07/2020 to 31/07/2020	State level one week webinar series organized by Dr. Rajesh Kshirsagar (core Team Member) on “डिजिटल तंत्रज्ञानद्वारे उद्योग: उद्योिकांच्या यशोगाथा”.	 <p>राष्ट्रीय कृषि उद्योग मिशन प्रकल्प (नाहेप) वसंतराव नाईक मराठवाडा कृषि विद्यापीठ, परभणी ऑनलाइन शिबिर प्रारंभ असेल। परभणी, पारभणी पार्लर टु गोर्की सोल्युशन्स, मुंबई कृषि उद्योग विकास</p> <p>राज्यस्तरीय एक आठवड्याचे शिबिर (दिनांक २७ ते ३१ जुलै २०२०) डिजिटल तंत्रज्ञानाद्वारे कृषि प्रक्रिया उद्योगः उद्योगिकांच्या यशोगाथा</p>  <p>वसंतराव नाईक मराठवाडा कृषि विद्यापीठ, परभणी</p>
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ACTIVITIES and EVENTS Conducted during 01 August to 30 August 2020

47	05/08/2020	One day “Online Soyaben Workshop” conducted in presence of Hon. Maharashtra Agriculture Minister Dadaji Bhuse	 <p> ऑनलाईन सोयाबीन कार्यशाळा केंद्राच्या माध्यमातून कृषि विद्यापीठ, पारधीच्या वतीने दि. १५ ते १६ ऑगस्ट २०२० या काळातसाठी ₹१.०० ते ₹३.०० या मालेत ऑनलाईन सोयाबीन कार्यशाळेचे आयोजन करण्यात आले आहे. ०१) उद्घाटन कार्यक्रमात दि. १५.०८.२०२० सांज ६:०० वाजता - अध्यक्ष - मा. डॉ. अशोक सुवगा कुमुद, पारधी, पारधी ०२) समावेश कार्यक्रमात दि. १५.०८.२०२० सांज ६:०० वाजता - अध्यक्ष - मा. डॉ. अशोक सुवगा कुमुद, पारधी, पारधी सा कार्यक्रमात आगामी उद्विग्नता प्रामाणिक आहे - विशेष - डॉ. पी.पी. वैद्यकर (अध्यक्ष, केंद्राचे अध्यक्ष, पारधी) डॉ. एम.पी. सुर्वे (अध्यक्ष, केंद्राचे अध्यक्ष, पारधी) डॉ. सु.ए. जाधव (अध्यक्ष, केंद्राचे अध्यक्ष, पारधी) Meeting ID : 84192131529 Password : 12345 </p>																					
48	10/08/2020 to 28/08/2020	National Agriculture Higher Education Project (NAHEP) has been formulated by the Indian Council of Agricultural Research (ICAR), an autonomous body responsible for coordinating agricultural education and research in India, for five years starting from 2017-18 with financial assistance of the World Bank. The project aims in developing the mechanism and resources to raise the standards of the current agriculture education on par with global agriculture education standards. The short-term course on ‘Application of Digital Technologies for Smart Agriculture’ is a part of one of the mandates of ICAR i.e., promotion and coordination of education in agriculture, aiming to attract talented students to the agriculture. The main objective of the short-term course is to familiarize the students with latest technologies and their applications in	 <p> Report on Three Weeks Online Short-Term Course to NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs (DFSrDA) Project, NAHEP-CAAST, ICAR, New Delhi 10-28 August 2020 CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani (MS), India. National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs (DFSrDA) Project, NAHEP-CAAST, ICAR, New Delhi 10-28 August 2020 List of participants those who attended the Three weeks Online Training Programs </p> <table border="1"> <thead> <tr> <th>Profession</th> <th>Name of the Organization</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Faculty</td> <td>ICAR, Anand</td> <td>1</td> </tr> <tr> <td>Faculty</td> <td>ICARV, Raichur</td> <td>22</td> </tr> <tr> <td>Student (PG/PhD)</td> <td>ICAR, Anand</td> <td>7</td> </tr> <tr> <td>Student (PG/PhD)</td> <td>Others</td> <td>1</td> </tr> <tr> <td>Student (PG/PhD)</td> <td>ICARV, Raichur</td> <td>10</td> </tr> <tr> <td>Total</td> <td></td> <td>52</td> </tr> </tbody> </table>	Profession	Name of the Organization	Total	Faculty	ICAR, Anand	1	Faculty	ICARV, Raichur	22	Student (PG/PhD)	ICAR, Anand	7	Student (PG/PhD)	Others	1	Student (PG/PhD)	ICARV, Raichur	10	Total		52
Profession	Name of the Organization	Total																						
Faculty	ICAR, Anand	1																						
Faculty	ICARV, Raichur	22																						
Student (PG/PhD)	ICAR, Anand	7																						
Student (PG/PhD)	Others	1																						
Student (PG/PhD)	ICARV, Raichur	10																						
Total		52																						



		agriculture to boost the professional skills of the students and faculty. The course was planned for 3 weeks, starting from 10th August 2020 to 28th August 2020. The speakers were the faculties and researchers from the renowned institutes of India, Indian Institute of Technology Bombay and Indian Institute of Technology Guwahati, and all the lectures were held virtually.	
49	10/08/2020	Inaugural function for three weeks Online short-term Course to NAHEP CAAST VNMKV Students on “ Application of Digital Technologies for Smart Agriculture” held at 4.00 PM in presence of Prof. Amit Arora PI NAHEP IIT Bombay; Prof.Satish Agnihotri Co-PI NAHEP,IIT Bombay; Prof. Kavi Arya, Co-PI NAHEP IIT Bombay; Dr. Ashok Dhawan Hon. Vice Chancellor, VNMKV; Dr. D. N. Ghokhale, DI & Dean (F/A) VNMKV and Dr.Gopal Shinde PI, NAHEP CAAST VNMKV Parbhani.	 <p align="center">National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs DFSRDA Project, NAHEP CAAST, ICAR, New Delhi</p> <p align="center">10-28 August 2020</p> <p align="center">Day-1 : 10 August 2020 Inaugural Function : 4.00 PM Zoom Meeting ID: 886 4772 0396 Password: MSd9VW</p>      <p>Prof. Amit Arora, IIT Bombay, Principal Investigator Prof. Satish Agnihotri, IIT Bombay, Co-Principal Investigator Prof. Kavi Arya, IIT Bombay, Co-Principal Investigator Dr. Ashok Dhawan, Vice-Chancellor, VNMKV, Parbhani Dr. G. U. Shinde, Principal Investigator, NAHEP CAAST VNMKV, Parbhani.</p>
50	10/08/2020	Day:01 Topic: Introduction to Indian Agriculture, Advances in Crop Management	 <p align="center">National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs DFSRDA Project, NAHEP CAAST, ICAR, New Delhi</p> <p align="center">10-28 August 2020</p>  <p>Topic: Introduction to Indian Agriculture, Advances in Crop Management Day-1 : 10 August 2020 Time : 4.45 PM</p> <p>Prof. Amit Arora, IIT Bombay, Principal Investigator</p>
51	11/08/2020	Day:02 Topic: E-Yantra and K-Yantra	 <p align="center">National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs DFSRDA Project, NAHEP CAAST, ICAR, New Delhi</p> <p align="center">10-28 August 2020</p>  <p>Day-2 : 11 August 2020 Session: I Time : 10.30 AM & Session: II Time : 04.00 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: E-Yantra and K-Yantra</p> <p>Prof. Kavi Arya, IIT Bombay, Co-Principal Investigator</p>



52	12/08/2020	Day:03 Topic: Sensors in Agriculture	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day-3 : 12 August 2020 Session: I Time : 11.00 AM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Sensors in Agriculture </p> <p> Prof. Maryam Shojaei Baghali <small>(EE, IIT Bombay)</small> </p> </div>
53	12/08/2020	Day:03 Topic: Electronics 101	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day-3 : 12 August 2020 Session: II Time : 04.00 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Electronics 101 </p> <p> Divya Singh <small>(CTARA, IIT Bombay)</small> </p> </div>
54	13/08/2020	Day:04 Topic: IoT Applications in Agriculture	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day- 4 : 13 August 2020 Session: I Time : 11.00 AM & Session: II Time : 04.00 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: IoT Applications in Agriculture </p> <p> Prof. Mahima Arrawatia <small>(ECE, IIT Guwahati)</small> </p> </div>
55	14/08/2020	Day:05 Topic: Let's learn Circuits & Tutorial	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day-5 : 14 August 2020 Session: I Time : 10.30 AM & Session: II Time : 04.00 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Let's learn Circuits & Tutorial </p> <p> Divya Singh <small>(CTARA, IIT Bombay)</small> </p> </div>
56	17/08/2020	Day:06 Topic: Precision Agriculture	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day-6 : 17 August 2020 Session: I Time : 10.30 AM & Session: II Time : 03.30 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Precision Agriculture </p> <p> Dr. Ipsita Das <small>(CTARA, IIT Bombay)</small> </p> </div>
57	18/08/2020	Day:7 Topic: 01) Automation in Agriculture (Green House, Farm implements) & 02) Automation in Food Processing.	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day-7 : 18 August 2020 Session: I Time : 10.30 AM & Session: II Time : 03.30 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: 1) Automation in Agriculture (Green House, Farm implements) & 2) Automation in Food Processing . </p> <p> Prof. Anshu <small>IIT Bombay Principal Investigator</small> </p> </div>
58	19/08/2020	Day:8 Topic: Introduction to Artificial Intelligence.	<p align="center"> NHEP <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEP-CAAST, ICAR, New Delhi.</small> </p> <p align="center"> <small>Three Weeks Online Short Term Course in NABEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture</small> </p> <p align="center"> <small>10-28 August 2020</small> </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p> Day-8 : 19 August 2020 Session: I Time : 10.30 AM & Session: II Time : 03.30 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Introduction to Artificial Intelligence </p> <p> Prof. Asim Tewari <small>(ME, IIT Bombay)</small> </p> </div>



CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs.

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59	20/08/2020	Day:9 Topic: Automation in Food Processing	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Day-9 : 20 August 2020 Session: I Time : 10.30 AM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Automation in Food Processing</p> <p>Prof. Vikal Sureshchandra (CTARA, IIT Bombay)</p>
60	20/08/2020	Day: 9 Topic: Introduction to Artificial Intelligence	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Day-9 : 20 August 2020 Session: II Time : 03.30 PM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Introduction to Artificial Intelligence</p> <p>Prof. Asim Tewari (ME, IIT Bombay)</p>
61	20/08/2020	Day:9 Topic: Crop Planning (Case study)	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Day-9 : 20 August 2020 Session: I Time : 3.30 PM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Crop Planning (Case study)</p> <p>Aniket Des (CTARA, IIT Bombay)</p>
62	21/08/2020	Day:10 Topic: Application of GIS and RS in Agriculture (Part-1)	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Day-10 : 21 August 2020 Session: I Time : 10.30 AM Session: II Time : 03.30 PM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Application of GIS and RS in Agriculture (Part-1)</p> <p>Prof. Pennan Chinnaamy (CTARA, IIT Bombay)</p>
63	24/08/2020	Day:11 Topic: Data Analysis (Part-1) & Data Analysis (Part-2)	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Week:-3 Day-1: 24 August 2020</p> <p>Session: I Time : 10.30 AM Session: II Time : 03.30 PM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Data Analysis (Part-1) & Data Analysis (Part-2)</p> <p>Prof. Anil Arora, IIT Bombay Principal Investigator</p>
64	25/08/2020	Day:12 Topic: Bioinformatics	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Week:-3 Day -2: 25 August 2020</p> <p>Session: I Time : 10.30 AM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Bioinformatics</p> <p>Shruti Kaushikbhai Bhat (CTARA, IIT Bombay)</p>
65	25/08/2020	Day:12 Topic: Application of GIS and RS in Agriculture (Part-2)	 <p>Three Weeks Online Short Term Course in NABEF-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NABEF-CAAST, ICAR, New Delhi</p> <p>19-20 August 2020</p>  <p>Week:-3 Day -2: 25 August 2020</p> <p>Session: II Time : 03.30 PM</p> <p>Zoom Meeting ID: 814 0560 8310 Password: snnZ6J</p> <p>Topic: Application of GIS and RS in Agriculture (Part-2)</p> <p>Prof. Pennan Chinnaamy (CTARA, IIT Bombay)</p>



66	26/08/2020	Day:13 Topic: Application of GIS and RS in Agriculture (Part-3)	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -3: 26 August 2020 Session: I Time : 10.30 AM Session: II Time : 03.30 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Application of GIS and RS in Agriculture (Part-3) </p> <p align="center"> Prof. Pennan Chinnasamy <small>(CTARA, IIT Bombay)</small> </p>
67	26/08/2020	Day:13 Topic: Application of GIS and RS in Agriculture (Part-3)	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -3: 26 August 2020 Session: II Time : 03.00 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Application of GIS and RS in Agriculture (Part-3) </p> <p align="center"> Prof. Pennan Chinnasamy <small>(CTARA, IIT Bombay)</small> </p>
68	27/08/2020	Day:14 Topic: Spatial Statistics	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -4: 27 August 2020 Session: I Time : 10.30 AM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Spatial Statistics </p> <p align="center"> Venam Thirumal Reddy <small>(CTARA, IIT Bombay)</small> </p>
69	27/08/2020	Day:14 Topic: GIS applications for Agriculture (Case study)	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -4: 27 August 2020 Session: II Time : 11.15 AM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: GIS applications for Agriculture (Case study) </p> <p align="center"> Aman Lonare <small>(CTARA, IIT Bombay)</small> </p>
70	27/08/2020	Day:14 Topic: Data Analysis (Part-3)	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -4 : 27 August 2020 Session: III Time : 03.30 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Data Analysis (Part-3) </p> <p align="center"> Prof. Amlk Anand <small>IIT Bombay Principal Investigator</small> </p>
71	27/08/2020	Day:14 Topic: Crop planning	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -4 : 27 August 2020 Session: III Time : 03.30 to 4.00 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Crop planning </p> <p align="center"> Ankur Deo <small>(CTARA, IIT Bombay)</small> </p>
72	27/08/2020	Day:14 Topic: Climate Smart Storage Structures	<p align="center"> <small>Three Weeks Online Short-Term Course in NAHEP-CAAST-VNMKV Students on Application of Digital Technologies for Smart Agriculture Under Centre of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <p align="center"> Week:-3 Day -4 : 27 August 2020 Session: III Time : 04.00 to 4.30 PM Zoom Meeting ID: 814 0560 8310 Password: snnZ6J Topic: Climate Smart Storage Structures </p> <p align="center"> Mayur Nihar <small>(CTARA, IIT Bombay)</small> </p>



73	27/08/2020	Day:14 Topic: Automation in Agriculture	<p align="center"> <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Center of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p align="center"> Week:-3 Day -4 : 27 August 2020 Session: III Time : 04.30 to 5.00 PM Zoom Meeting ID: 814 0560 8310 Password: snn26J Topic: Automation in Agriculture </p> <p align="center"> <small>Dirya Singh (CTARA, IIT Bombay)</small> </p> </div>
74	27/08/2020	Day:14 Topic: Automation in Agriculture	<p align="center"> <small>National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES AND AGVs. Under Center of Excellence for Digital Farming Solutions for Enhancing Productivity by Robots, Drones and AGVs. (DFSRDA) Project, NAHEP-CAAST, ICAR, New Delhi</small> 10-28 August 2020 </p> <div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p align="center"> Week:-3 Day -5 : 28 August 2020 Session: I Time : 10.30 AM Zoom Meeting ID: 814 0560 8310 Password: snn26J Topic: Feedback </p> <p align="center"> <small>Prof. Anshu, IIT Bombay Principal Investigator</small> </p> </div>
75	28/08/2020	Day:15 Topic: Over Feedback taken from each participants. 52 Participants received a copy of training complitation certificate	<p align="center">Specimen copy of Training Certificate</p>

ACTIVITIES and EVENTS Conducted during 01 September to 30 November 2020

76	08/09/2020	Practical Exam and Interview process of Shortlisted candidate for the post of Computer operator or Office assistant is held at NAHEP center	
77	08/09/2020	Document Verifaction of Shortlisted candidate for the post of Computer operator or Office assistant is held at NAHEP center	



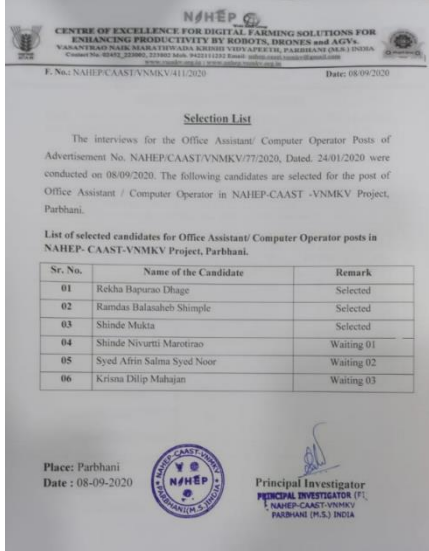
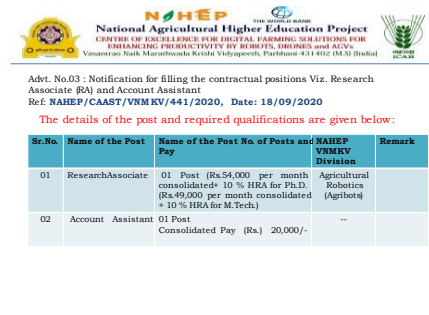
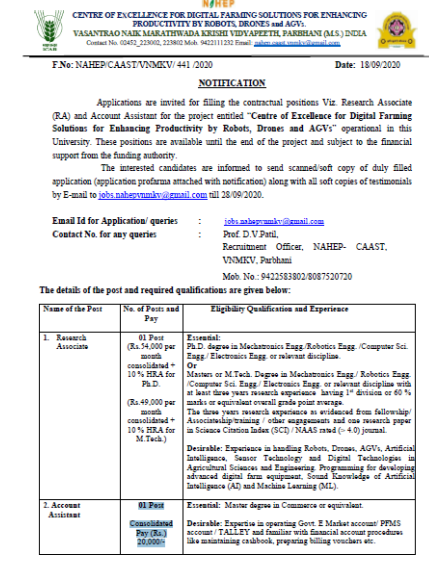
CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs.

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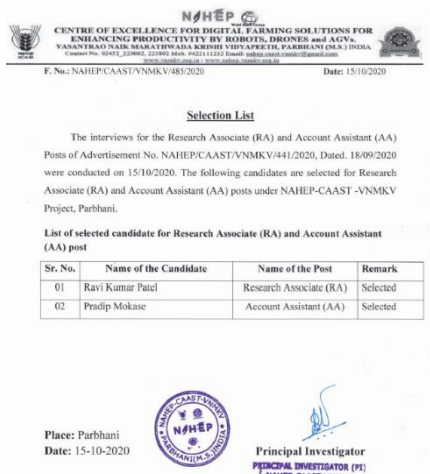





78	08/09/2020	Published the selection list of Office Assistant/ Computer Operator under NAHEP CAAST VNMKV Parbhani on VNMKV/NAHEP Portal	
79	17/09/2020		One day Online Farmers meet was organized by Extension Department coordinial with NAHEP on the occasion of “Marathwada Mukti Sangram Din”
80	18/09/2020	Advt. No.03 : Notification for filling the contractual positions Viz. Research Associate (RA) and Account Assistant Ref: NAHEP/CAAST/VNMKV/441/2020, Date: 18/09/2020	
81	18/09/2020	Advt. No.03 : Notification for filling the contractual positions Viz. Research Associate (RA) and Account Assistant Ref: NAHEP/CAAST/VNMKV/441/2020, Date: 18/09/2020	



82	24/09/2020	Meeting with NAHEP staff Related to Procurement.	
83	01/10/2020	Approval of various committees	
84	08/10/2020	Interview Schedule and List of shortlisted candidates called for the interview of Research Associate (RA) and Account Assistant posts under NAHEP-CAAST-VNMKV Project.	
85	08/10/2020	Interview Schedule and List of shortlisted candidates called for the interview of Research Associate (RA) and Account Assistant posts under NAHEP-CAAST-VNMKV Project	



86	15/10/2020	Selection list of Research Associate (RA) and Account Assistant posts under NAHEP-CAAST-VNMKV Project has been published on VNMKV/NAHEP Portal	 <p>The document is a selection list for Research Associate (RA) and Account Assistant (AA) posts. It includes the organization's name, project details, and a table of selected candidates.</p> <table border="1" data-bbox="1013 571 1396 638"> <thead> <tr> <th>Sr. No.</th> <th>Name of the Candidate</th> <th>Name of the Post</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Ravi Kumar Patel</td> <td>Research Associate (RA)</td> <td>Selected</td> </tr> <tr> <td>02</td> <td>Pradip Mokase</td> <td>Account Assistant (AA)</td> <td>Selected</td> </tr> </tbody> </table>	Sr. No.	Name of the Candidate	Name of the Post	Remark	01	Ravi Kumar Patel	Research Associate (RA)	Selected	02	Pradip Mokase	Account Assistant (AA)	Selected		
Sr. No.	Name of the Candidate	Name of the Post	Remark														
01	Ravi Kumar Patel	Research Associate (RA)	Selected														
02	Pradip Mokase	Account Assistant (AA)	Selected														
87	06/11/2020	Dr. Avinash Kakade & Dr. Hemant Rokade Senior Research Fellow NAHEP VNMKV Parbhani Published popular Marathi on “सीताफळापासून होतो जीवनसत्वांचा पुरवठा” Articles in Agrowon.	 <p>The image shows a page from a Marathi article titled 'सीताफळापासून होतो जीवनसत्वांचा पुरवठा' (Nutrient supply from Sitaphal). It features a photograph of a green sitaphal fruit.</p>														
88	15/11/2020	Dr. Avinash Kakade & Dr. Hemant Rokade Senior Research Fellow NAHEP VNMKV Parbhani Published on “संतुलित आहार स्रोत : सिताफळं” popular Marathi Articles in Agrowon.	 <p>The image shows a page from a Marathi article titled 'संतुलित आहार स्रोत : सिताफळं' (Balanced Food Source: Sitaphal). It includes a photograph of a sitaphal fruit and a table of its nutritional value.</p> <table border="1" data-bbox="1252 1243 1404 1377"> <thead> <tr> <th>पोषक तत्व</th> <th>प्रति 100 ग्रॅम</th> </tr> </thead> <tbody> <tr> <td>ऊर्जा</td> <td>100.00</td> </tr> <tr> <td>प्रथिने</td> <td>1.00</td> </tr> <tr> <td>चर्बी</td> <td>0.50</td> </tr> <tr> <td>कार्बोहायड्रेट</td> <td>20.00</td> </tr> <tr> <td>कॅल्शियम</td> <td>10.00</td> </tr> <tr> <td>आयर्न</td> <td>0.50</td> </tr> </tbody> </table>	पोषक तत्व	प्रति 100 ग्रॅम	ऊर्जा	100.00	प्रथिने	1.00	चर्बी	0.50	कार्बोहायड्रेट	20.00	कॅल्शियम	10.00	आयर्न	0.50
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89	20/11/2020	<p>Gopal Raner, Junior Engineer & Dr. Avinash Kakade, Senior Research Fellow, NAHEP VNMKV Parbhani Published Marathi Article on “शेतीमध्ये ड्रोन तंत्रज्ञानाचा वापर” in Agrowon Daily Magazine.”</p>	<p>शेती >> टेक्नॉलॉजी >> शेतीमध्ये ड्रोन तंत्रज्ञानाचा वापर</p> <p>टेक्नोवन</p>  <p>शेतीमध्ये ड्रोन तंत्रज्ञानाचा वापर</p> <p>मोहाळ रानेर, डॉ. अविनाश काकडे शुक्रवार, 20 नोव्हेंबर 2020</p> <p>Facebook Twitter LinkedIn YouTube WhatsApp Telegram Pinterest Medium RSS</p> <p>शेतीसमोरील समस्यांमध्ये बदलते हवामान, मनुष्यांची कमतरता, निविहांचा वाढता खर्च, कमी होणारे सिंचनाचे पाणी यांचा समावेश होतो. या समस्यांवर डिजिटल तंत्रज्ञानाने कशा प्रकारे मार्ग काढता येईल, याबाबत संशोधक विचार करत आहेत. त्यामध्ये ड्रोन तंत्रज्ञान अत्यासक्त ठरणार आहे.</p> <p>शेतीसमोरील समस्यांमध्ये बदलते हवामान, मनुष्यांची कमतरता, निविहांचा वाढता खर्च, कमी होणारे सिंचनाचे पाणी यांचा समावेश होतो. या समस्यांवर डिजिटल तंत्रज्ञानाने कशा प्रकारे मार्ग काढता येईल, याबाबत संशोधक विचार करत आहेत. त्यामध्ये ड्रोन तंत्रज्ञान अत्यासक्त ठरणार आहे.</p> <p>शेतीमध्ये हवातून पाण्याची उपयुक्तता वाढवण्याची निर्मिती केली जात आहे. याद्वारे पीक हवातून पाणी, रोमजिवात करणे, पिकांची काळजी करणे, याची वाढवणे करणे शक्य होईल. त्याचाच पुढील भाग म्हणजे अस्वाभाविक उतार उताराने ड्रोन होणे. पूर्वी तंत्रज्ञानासाठी प्रत्येकाने काही काळ होत असे. मात्र अलीकडे हे तंत्रज्ञानाने सोपे आणि वापरण्यास सोईकर बनविले आहे. अशा प्रकारे शेतीमध्ये वापरण्याच्या वाक्याचा उदभव सुरू आहे. एका अंदाजावरून, सन 2024 मध्ये सुमारे 1000 कोटी डॉलर खर्च ड्रोनची उदभवत किंवा इतर होतो. त्यात अशा कितीतरी घटनेचा भाग बनतो आहे.</p> <p>परदेशात कृषी क्षेत्रातील ड्रोन तंत्रज्ञानाच्या वापरण्याची विविध शक्यता पाहिल्या जात आहेत. पाण्यात देवांगीतले सल्ला व सिंचनाचे क्षेत्रावर परतलेल्या पिकावर लक्ष ठेवण्यासाठी ड्रोन तंत्रज्ञानाचा वापर वाढत आहे. ड्रोनला जोडलेले कॅमेरे अत्यंत उंचा उंचीवर असल्याने एका जागेवर खूप पिकांच्या वाढ, बीज-रोपाचा प्रचुरता, सिंचन योग्य प्रमाणात पोहोच किंवा नाही, अशा बाबींवर लक्ष ठेवता येते.</p> <p>फवारणीसाठी ड्रोन</p> <ul style="list-style-type: none"> ड्रोनमध्ये सुमारे 50 लिटर ड्रोन फवारणीची क्षमता आहे. याद्वारे एकाचवेळी फवारणी शक्य होते. एका घावणीतील निविहांमध्ये अशा फवारणीसाठी ड्रोनमध्ये एकाच वेळी 100 एकर क्षेत्र लागतात. शेताकडून मनुष्यांनी इतर क्षेत्रात लागणे. मात्र ड्रोनच्या फवारणीमुळे शेताकडून काम वेगळे होणार आहे. मनुष्यांचे शेतकामात वाढवणे पिकांची होणारी मारणीसाठी ड्रोन फवारणीमुळे होणार नाही. <p>सर्वेक्षणसाठी ड्रोन</p> <p>भारतात शेतीमध्ये फवारणी, सिंचन, पिकांचे निरीक्षण आणि जमिनीच्या मुलभूत घटकाने मूल्यांकन करण्यासाठी ड्रोन वापरले जाऊ लागले आहे. ड्रोन व विविध प्रकारच्या सेन्सर्सच्या साहाय्याने जमिनीतील व पिकातील अन्नद्रव्यांची माहिती संकलित करता येते. संकलित केलेल्या या माहितीचे एकाच वेळी विश्लेषण केले जाते. पुढील टप्प्यामध्ये या माहितीचा यांत्रिक विश्लेषणासाठी (मशीन लर्निंग) जोड देता येईल. यामुळे पिकांच्या गरजा आणून, आणोपाप योग्य प्रमाणात खाणे, बीजकामाचे आणि पाणी देणे वेळ शक्य.</p> <p>मर्यादा</p> <ul style="list-style-type: none"> भारतामध्ये ड्रोन उपयुक्त कंपनी अद्याप परदेशी घटकावर अवलंबून आहेत. भारतीय कर्मचाऱ्यांच्या ड्रोनची निर्मिती हे आव्हान आहे. ड्रोन निर्मितीचा खर्च मर्यादित ठेवणे हे दुसरे आव्हान असणार आहे. कारण भारत हा अल्पव्यवसायाचा देश आहे. वेळेचे अधिक महत्त्वाची वरिष्ठ शेतकऱ्यांच्या पोषणाने तसेही अडथळ आहे. ड्रोन तंत्रज्ञानाचा प्रसार वाढण्यासाठी एखाद्या विशिष्ट कामासाठी कमी खर्चात ड्रोनची निर्मिती केली गेली पाहिजे. या तीन मर्यादांवर काम केले नसल्यास शेतात कमी खर्चात ड्रोन तंत्रज्ञानाच्या शेतात काम करताना दिसतील. <p>वापरण्याच्या शक्यता</p> <ul style="list-style-type: none"> प्रत्येक हंगामात प्रत्येक पिकाचे वेगवेगळे क्षेत्र अनुषंगाने मोजता येईल. पैकी सिस्टम टॅक्नॉलॉजी वापरून ड्रोनद्वारे क्षेत्रावकाशाची फवारणी शक्य. रोपासाठी अनुकूल हवामान आणि परिस्थितीत प्रत्येकवेळी ड्रोनद्वारे शेतातील रोपांचे पुर्नमूल्य करणे शक्य. छायाचित्राद्वारे पिकांचा लक्षणांकन रोपांचे निदान करणे शक्य. उत्पत्तीमध्ये पिकांचे दुर्बल भागांवर लक्ष ठेवण्यासाठी ड्रोन तंत्रज्ञानाचा वापर होऊ शकतो. आपदासमय परिस्थितीमध्ये वेगळे जाऊन नुकसानीबरोबर जीवितकामीचा अंदाज घेणे शक्य. <p>संपर्क मोहाळ रानेर, (कनिष्ठ अभियंता), 9422111232 डॉ. अविनाश काकडे, (वरीष्ठ संशोधन सहायक), 0245220020 (राष्ट्रीय कृषी उच्च शिक्षण प्रकल्प, वसंतराव नाईक मराठवाडा कृषी विद्यापीठ, पारभणी.)</p>
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ACTIVITIES and EVENTS Conducted during 01 December to 31 December 2020

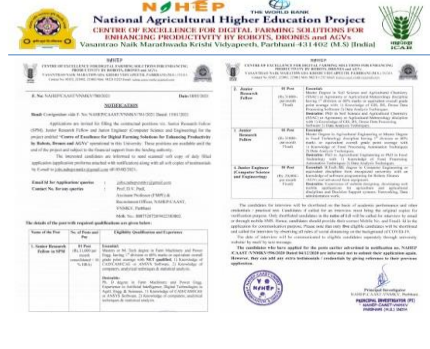
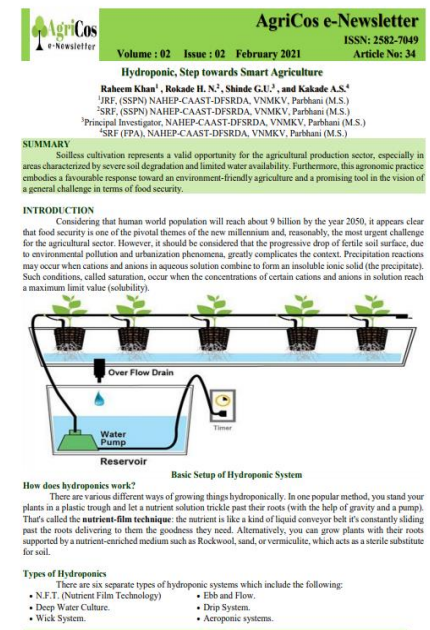
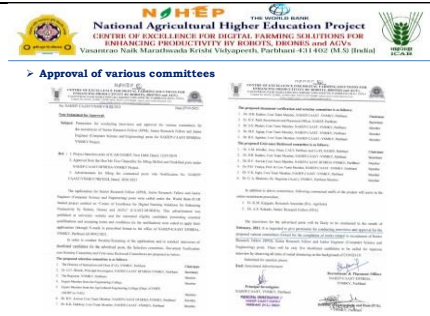
90	03/12/2020	Avinash Kakade, Senior Research Fellow, Hement Rokde, Senior Research Fellow & Rashmi Bangle, Junior Engineer NAHEP VNMKV Parbhani Published Marathi Article on “सीताफल (शरीफा) के औषधि गुणधर्म” part-I in Ropan Magazine	
91	23/12/2020	On the occasion of National Farmer’s Day NAHEP-CAAST, VNMKV, Parbhani Inaugurated different online activities such as online Essay Competition, online Quiz Competition, online Debate & Poster Competition for PG/Ph.D Students and Faculties and others.	
92	23/12/2020	On the occasion of National Farmer’s Day NAHEP-CAAST, VNMKV, Parbhani organized Quiz Competition on “Food Processing Automation” for PG / Ph. D Students. Where 220 Participates are participated in this Quiz Competition.	
93	28/12/2020	Attended Two weeks “Hands on Training on ANSYS 2020 R2” in collaboration with ARK Info Solution, Mumbai was Inaugurated at NAHEP CAASTDFS RDA Centre, Parbhani. Topic Covered: MODELING Basics of SCDM: Sketching, Geometry Modeling: Modeling, Geometry	

94	29/12/2020	<p>Attended Day-2: “Hands on Training on ANSYS 2020 R2” Topic Covered: MESHING Introduction to Meshing: ANSYS Meshing Basics.</p>	
95	30/12/2020	<p>Day-3: “Hands on Training on ANSYS 2020 R2” Topic Covered: MECH Mesh Methods: Mesh Methods, Global Mesh Controls: Using Global Mesh Controls, Local Mesh Controls: Local Mesh Controls, Introduction to FEM: ANSYS Mechanical Overview.</p>	
96	31/12/2020	<p>Day-4: “Hands on Training on ANSYS 2020 R2” Topic Covered: MECH Introduction to FEM: Static Structural Analysis, Static Structural Analysis: 1d 2d 3d Analysis, Modal Analysis: Plate with hole, Eigenvalue Buckling: Buckling of column, Thermal Analysis: Steady State Thermal Analysis, Static Structural: Analysis of shaft and bearing.</p>	
97	31/12/2020	<p>Raheem Khan, Junior Research Fellow, Dr. Rokade H. N., and Dr. Kakade A.S Senior Research Fellow NAHEP VNMKV Parbhani Published English Article on “Precision Farming-The Digital Approach” in AgriCos e-Newsletter</p>	





ACTIVITIES and EVENTS Conducted during 01 January to 30 April 2021

98	01/01/2021 To 06/01/2021	Attended Day-5: "Hands on Training on ANSYS 2020 R2" Topic Covered: CFD Introduction to CFD, Introduction to GUI: Fluent Fluid Flow & Heat Transfer in Mixing Tee, Cell Zone & Boundary Conditions: flow around a sphere, Boundary Condition Continued																										
99	07/01/2021	Attended Hands on training "Multispectral camera Parrots Sequoia , Micasense with Pix-4D software from Kambil system for mapping Survey, and inspection of field																										
100	10 January 2021	Raheem Khan, Junior Research Fellow, Dr. Rokade H. N., and Dr.Kakade A.S Senior Research Fellow NAHEP VNMKV Parbhani Published English Article on "Rain Water Harvesting" in AgriCos e-Newsletter	<p>AgriCos e-Newsletter Volume : 02 Issue : 01 January 2021 Article No: 19</p> <p>Rainwater Harvesting (RWH)-Climate Boosting Practice Raheem Khan¹, Nizam Khan², Rokade H. N.³, and Kakade A.S⁴ ¹JRF, (SPN) NAHEP-CAAST-DFSRDA, VNMKV, Parbhani (M.S.) ²SRF, (SPN) NAHEP-CAAST-DFSRDA, VNMKV, Parbhani (M.S.) ³SRF (FPA), NAHEP-CAAST-DFSRDA, VNMKV, Parbhani (M.S.)</p> <p>SUMMARY Collection and storage of rain, rather than allowing it to run off. Rainwater is collected from a roof-like surface and redirected to a tank, cistern, deep pit (well, shaft, or borehole), aquifer or a reservoir with percolation. Dew and fog can also be collected with nets or other tools. Rainwater harvesting differs from storm water harvesting as the runoff is collected from roofs, rather than creeks, drains, roads or any other land surfaces. Its uses include watering gardens, livestock, irrigation, domestic use with proper treatment, and domestic heating. The harvested water can also be committed to longer-term storage or groundwater recharge.</p> <p>INTRODUCTION Rainwater harvesting is one of the simplest and oldest methods of self-supply of water for households, and residential and household scale projects usually financed by the user. However, larger systems for schools, hospitals and other facilities can run up costs only able to be financed by companies, organization and governmental units.</p> <p>Components of RWH</p> <p>Fig.Components of Rain water Harvesting</p> <p>Components of Harvesting (RWH)</p> <ul style="list-style-type: none"> • Catchment. • Delivery. • Storage. <p>Catchment: The catchment area is the first point of contact for rainfall. For the vast majority of tank-based rainwater harvesting systems, the catchment area is the roof surface. There are some important factors about the roof to consider when planning for a RWH system. Roof Material: The material of the roof is not as important as contaminants that may be on the roof. For landscape purposes, the common asphalt shingle will work fine. If you are starting from scratch, we recommend a metal roof because they easily shed contaminants. In all cases, it's important to avoid wood shingles or metal flashing that contains lead. Slope: The slope of the roof affects how quickly water will runoff during a rain event. A steep roof will shed runoff quickly and more easily clean the roof of contamination. A less-steep, flatter roof will cause the water to</p> <p>www.agricosmagazine.com 63</p>																									
101	18/01/2021	Advt. No.04 : Notification for filling the contractual positions viz. senior research fellow, Junior Engineer (Computer Science and Engineering) and Junior Research Fellow/ Young Professional-II Ref:NAHEP/CAAST/VNM KV/780/2021, Date: 18/01/2021	<p>N A H E P National Agricultural Higher Education Project CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani-431402 (M.S.) India</p> <p>Advt. No.04 : Notification for filling the contractual positions viz. senior research fellow, Junior Engineer (Computer Science and Engineering) and Junior Research Fellow/ Young Professional-II Ref: NAHEP/CAAST/VNM KV/780/2021, Date: 18/01/2021 The details of the post and required qualifications are given below:</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Name of the Post</th> <th>Name of the Post No. of Posts and Pay</th> <th>NAHEP VNMKV Division</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Senior Research Fellow</td> <td>01 post Rs. 31000/- per month consolidated + 10 % HRA</td> <td>Smart Machinery Centre (SPM)</td> <td>Portable</td> </tr> <tr> <td>02</td> <td>Junior Research Fellow</td> <td>01 post Rs. 31000/- per month fixed</td> <td>Climate based Digital Knowledge Support Centre (CDKS)</td> <td></td> </tr> <tr> <td>03</td> <td>Junior Research Fellow</td> <td>01 post Rs. 31000/- per month fixed</td> <td>Food Processing Automation Centre (FPA)</td> <td></td> </tr> <tr> <td>04</td> <td>Junior Engineer (Computer science and engineering)</td> <td>01 post Rs. 20000/- per month fixed</td> <td>(Computer Sciences and Engineering)</td> <td></td> </tr> </tbody> </table>	Sr. No.	Name of the Post	Name of the Post No. of Posts and Pay	NAHEP VNMKV Division	Remark	01	Senior Research Fellow	01 post Rs. 31000/- per month consolidated + 10 % HRA	Smart Machinery Centre (SPM)	Portable	02	Junior Research Fellow	01 post Rs. 31000/- per month fixed	Climate based Digital Knowledge Support Centre (CDKS)		03	Junior Research Fellow	01 post Rs. 31000/- per month fixed	Food Processing Automation Centre (FPA)		04	Junior Engineer (Computer science and engineering)	01 post Rs. 20000/- per month fixed	(Computer Sciences and Engineering)	
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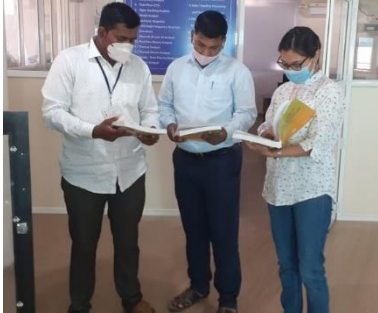




102	18/01/2021	Advt. No.04 : Notification for filling the contractual positions viz. senior research fellow, Junior Engineer (Computer Science and Engineering) and Junior Research Fellow/ Young Professional-II Ref: NAHEP/CAAST/VNMKV/780/2021, Date: 18/01/2021	
103	02 February 2021	Raheem Khan, Junior Research Fellow, Dr. H. N. Rokade, Senior Research Fellow, Dr. G. U. Shinde, Principal Investigator, & Dr. A. S. Kakade, Senior Research Fellow, NAHEP-CAAST, VNMKV Parbhani Published English Article on “Hydroponic, Step Towards Smart Agriculture” in AgriCos e-Newsletter Monthly Magazine	
104	05/02/2021	Approval of Various committees	







105	08 February 2021	Marathi Popular Article Published in Baliraja Magazine By Dr. Avinash Kakade and Dr. Hemant Rokade on “आधुनिक युगातील पशुपालनाचे तंत्रज्ञान” in बळीराजा Monthly Magazine	 <p>आधुनिक युगातील पशुपालनाचे तंत्रज्ञान</p> <p>डॉ. रवी वेगळे, डॉ. हेमंत रोकाडे व डॉ. अविनाश काकाडे यांच्या सहकाराने तयार झालेले 'आधुनिक युगातील पशुपालनाचे तंत्रज्ञान' हे लेखन बळीराजा मासिक, अक्टोबर 2020 मध्ये प्रकाशित झाले. हे लेखन बळीराजा मासिक, अक्टोबर 2020 मध्ये प्रकाशित झाले. हे लेखन बळीराजा मासिक, अक्टोबर 2020 मध्ये प्रकाशित झाले.</p>										
106	02/03/2021	Meeting with PG/Ph.D. Scholar from Agricultural College, VNMKV regarding internship @FAO	 <p>Dr. G. U. Shinde, Dr. Aniket Waikar, Dr. Avinash Kakade & PG/Ph.D. Student Shaikh Shaharukh, Pritam Patil, Ganesh Darade</p>										
107	02/03/2021	Meeting with progressive industrialists/ farmers regarding Pulp manufacturing Industry's	 <p>Mr. Inamdar, Mr. Ashish Inamdar, Mr. Sanjay Nikam, Dr. Hemant Rokade & Dr. Avinash Kakade</p>										
108	05/03/2021	Redressal of grievances received from the candidates applied for different posts against NAHEP CAAST VNMKV recruitment notification.	 <p>Notice</p> <p>Redressal of grievances received from the candidates applied against Advertisement for filling contractual positions under NAHEP CAAST VNMKV project vide Advertisement No. NAHEP/CAAST/VNMKV/780/2021 Dn. 18/01/2021.</p> <p>Reads: 1. Advertisement for filling Senior Research Fellow (SRF), Junior Research Fellow and Junior Engineer (Computer Science and Engineering) posts vide Notification No. NAHEP/CAAST/VNMKV/780/2021, Dated: 18/01/2021; 2. University website notice regarding list of Eligible and Non-eligible candidates/applications vide Ref No. NAHEP/CAAST/DFSRDA/VNMKV/780/2021 Date: 26/02/2021.</p> <p>The list of eligible and non-eligible candidates/applications for the posts of Senior Research Fellow (SRF), Junior Research Fellow and Junior Engineer (Computer Science and Engineering) was published vide reference no. 2.</p> <p>The following grievance regarding eligibility was received and redressal of the same is as below:</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Name of the applicant/candidate</th> <th>Name of the post</th> <th>Remarks of the committee</th> <th>Final Eligibility Remarks</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Shrikumar Shrikumar</td> <td>JRF (Post no. 2 in advertisement)</td> <td>Two applications were received for the same post (JRF). Provisional Degree certificate (PDC) was not attached in the first e-mail. Whereas, the PDC was found in second application which was received within last date of submission. Hence the grievance made is accepted. In Application Date: 29/12/2020 In Application Date: 26/01/2021</td> <td>Eligible</td> </tr> </tbody> </table> <p>प्रमुख अधिकारी (SRF) NAHEP-CAAST-VNMKV परभणी (M.S.) INDIA</p> <p>PRINCIPAL INVESTIGATOR (PI) NAHEP-CAAST-VNMKV PARBHANI (M.S.) INDIA</p>	Sr. No.	Name of the applicant/candidate	Name of the post	Remarks of the committee	Final Eligibility Remarks	01	Shrikumar Shrikumar	JRF (Post no. 2 in advertisement)	Two applications were received for the same post (JRF). Provisional Degree certificate (PDC) was not attached in the first e-mail. Whereas, the PDC was found in second application which was received within last date of submission. Hence the grievance made is accepted. In Application Date: 29/12/2020 In Application Date: 26/01/2021	Eligible
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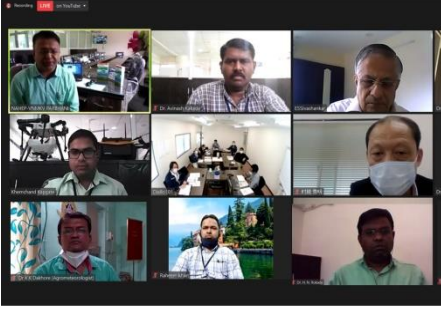
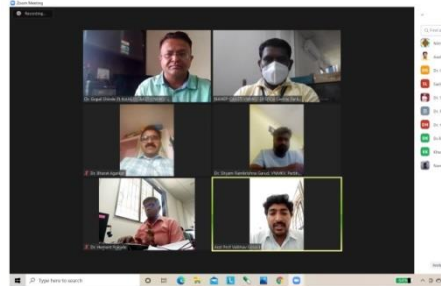




<p>109</p> <p>08/03/2021</p>	<p>Online programme on occasion of International Woman's Day "महिला नेतृत्वः कोव्हिड-19 जगात एक समान भविष्य साध्यता आव्हानेत आव्हाने निश्चित करा !"</p> <p>Online programme on occasion of International Woman's Day "महिला नेतृत्वः कोव्हिड-19 जगात एक समान भविष्य साध्यता आव्हानेत आव्हाने निश्चित करा !"</p>	 
<p>110</p> <p>10/03/2021</p>	<p>Ph.D. research scholar Miss. Nilza Othez & Mr. Hemant Rupnawar (PFE) visited NAHEP Centre</p>	
<p>111</p> <p>12/03/2021</p>	<p>The interviews for filling the contractual positions viz. Senior Research Fellow (SPM), Junior Research Follow (CDKS), Junior Research Fellow (FPA) and Junior Engineer (CSE) Vide Reference No. NAHEP/CAAST/VNMKV/780/2021, Dated. 18/01/2021 were conducted on 12/03/2021.</p>	
<p>112</p> <p>12/03/2021</p>	<p>Participated in Conducting Online Interview for the Post of SRF JRF JE</p>	<p>Glimpses of Recruitment of SRF,JRF,JE</p> 



113	12/03/2021	List of selected candidates under NAHEP-CAAST-VNMKV project , Parbhani has been published on VNMKV/NAHEP Portal	 <p align="center">NAHEP CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs. VASANTRAO NAIK MARATHWADA KRISHI VIDYAPEETH, PARBHANI (M.S.) INDIA F.No:NAHEP/CAAST/VNMKV/83/2021 Date: 12/03/2021</p> <p align="center">Selection List</p> <p>The interviews for filling the contractual positions viz. Senior Research Fellow (SPM), Junior Research Fellow (CDKS), Junior Research Fellow (PPA) and Junior Engineer (CSE) Vide Reference No. NAHEP/CAAST/VNMKV/780/2021, Dated. 18/01/2021 were conducted on 12/03/2021. The following candidates are selected for the post of Senior Research Fellow (SPM), Junior Research Fellow (CDKS), Junior Research Fellow (PPA) and Junior Engineer (CSE) in NAHEP-CAAST-VNMKV Project, Parbhani.</p> <p align="center">List of selected candidates for various post in NAHEP-CAAST-VNMKV Project, Parbhani.</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Name of the Post</th> <th>Name of the Selected candidate</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>Senior Research Fellow (SPM)</td> <td>Patil Anand Madhav</td> </tr> <tr> <td>02</td> <td>Junior Research Fellow (CDKS)</td> <td>Dr. Shinde Shivaj Eaknathrao</td> </tr> <tr> <td>03</td> <td>Junior Research Fellow (PPA)</td> <td>No Suitable Candidate Found</td> </tr> <tr> <td>04</td> <td>Junior Engineer (CSE)</td> <td>Miss. Sanjayani Ashokrao Karvate</td> </tr> </tbody> </table> <p align="center">Place: Parbhani Date: 12-03-2021</p> <p align="center">Principal Investigator NAHEP-CAAST-VNMKV PARBHANI (M.S.) INDIA</p>	Sr. No.	Name of the Post	Name of the Selected candidate	01	Senior Research Fellow (SPM)	Patil Anand Madhav	02	Junior Research Fellow (CDKS)	Dr. Shinde Shivaj Eaknathrao	03	Junior Research Fellow (PPA)	No Suitable Candidate Found	04	Junior Engineer (CSE)	Miss. Sanjayani Ashokrao Karvate																				
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115	26/03/2021 To 27/03/2021	NAHEP-CAAST, & VNMKV Agronomy Department , organized online Tutorial Classes on “Preparing for JRF/SRF/NET/ARS Exam & other Competitive Exam in Agriculture”	 <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Name of Faculty</th> <th>Lecture Title</th> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Inaugural Session</td> <td></td> <td>26.03.2021</td> <td>10.00 to 10.30 AM</td> </tr> <tr> <td>2</td> <td>Dr. Mizra I. A. B. Assistant Professor, Dept. of Agronomy, VNMKV, Parbhani.</td> <td>How to study and prepare for competitive exams.</td> <td>26.03.2021</td> <td>10.30 to 12.00 Noon</td> </tr> <tr> <td>3</td> <td>Dr. M. Jagadeesh, Faculty, Ph.D. research scholar, Thiagarajar, T.N.</td> <td>Opportunities for Agriculture graduates in competitive exams and preparation for ICAR/SAU's entrance exams.</td> <td>26.03.2021</td> <td>3.00 to 04.30 PM</td> </tr> <tr> <td>4</td> <td>Dr. Meeta Rani, Agronomist Research Station, Member, Indraprastha, Raigarh.</td> <td>Choosing subject and preparation of JRF/SRF/NET/ARS with respect to Agronomy and NEM group subject.</td> <td>27.03.2021</td> <td>10.00 to 11.30 AM</td> </tr> <tr> <td>5</td> <td>Dr. Kanakshi Menon, Scientist (Agronomy), Division of Crop Production, ICAR-IIPR, Kanpur</td> <td>Best strategies to crack JRF/SRF/NET/ARS in Agronomy.</td> <td>27.03.2021</td> <td>3.00 to 04.30 PM</td> </tr> <tr> <td>6</td> <td>Plenary Session</td> <td></td> <td>27.03.2021</td> <td>04.30 to 05.00 PM</td> </tr> </tbody> </table> <p align="center">Zoom Meeting ID : 874 5858 2028 Password : 12345 Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani (MS)</p>	Sr. No.	Name of Faculty	Lecture Title	Date	Time	1	Inaugural Session		26.03.2021	10.00 to 10.30 AM	2	Dr. Mizra I. A. B. Assistant Professor, Dept. of Agronomy, VNMKV, Parbhani.	How to study and prepare for competitive exams.	26.03.2021	10.30 to 12.00 Noon	3	Dr. M. Jagadeesh, Faculty, Ph.D. research scholar, Thiagarajar, T.N.	Opportunities for Agriculture graduates in competitive exams and preparation for ICAR/SAU's entrance exams.	26.03.2021	3.00 to 04.30 PM	4	Dr. Meeta Rani, Agronomist Research Station, Member, Indraprastha, Raigarh.	Choosing subject and preparation of JRF/SRF/NET/ARS with respect to Agronomy and NEM group subject.	27.03.2021	10.00 to 11.30 AM	5	Dr. Kanakshi Menon, Scientist (Agronomy), Division of Crop Production, ICAR-IIPR, Kanpur	Best strategies to crack JRF/SRF/NET/ARS in Agronomy.	27.03.2021	3.00 to 04.30 PM	6	Plenary Session		27.03.2021	04.30 to 05.00 PM
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116	09/04/2021	NAHEP Staff & PI meeting with Mr. Kundan Deshmukh, Managing Director, Parbhani Agro Tech. PVT. Ltd. Aurangabad																																				



124	21/04/2021	NAHEP-CAAST, VNMKV, organized a zoom meeting for “Meeting on Grafting Robot by Kusakabe Kikai Co. Ltd. Japan” for mutual collaboration for development and advancement in the existing grafting robot.	
125	26/04/2021	NAHEP-CAAST, VNMKV, organized a zoom meeting for “Technical discussion on 3D Food printing” with core team members from Food Technology & Agril. Engraining College.	 <p align="center">Dr. G. U. Shinde, Dr. Shaym Garud, Dr. R. B. Kshirsagar, Dr. B. S. Agarkar & Prof. Lahane & Prof Gosavi from CSMS College, Aurangabad</p>
126	27/04/2021	Annual Procurement Review Meeting For 2020-21 At NAHEP-DFSRDA-VNMKV Centre	 <p align="center">Dr. G. U. Shinde, Ravi Kumar Kalloji, Er. D. D. Tekale, Dr. U. M. Khodke, Dr. K. K. Dakhore, Er. S. N. Pawar, Er. Kemchand Kapgate, Dr. Hement Rokade, Dr. Avinash Kakade</p>
127	28/04/2021	NAHEP-CAAST, VNMKV, organized a zoom meeting for “Technical discussion on 3D Food printing”	 <p align="center">Dr. G. U. Shinde, Dr. Shaym Garud, Dr. R. B. Kshirsagar, Dr. B. S. Agarkar & Prof. Lahane & Prof Gosavi from CSMS College, Aurangabad</p>




128	28/04/2021	Procurement Activities Ongoing under Food Processing Automation Portfolio.	
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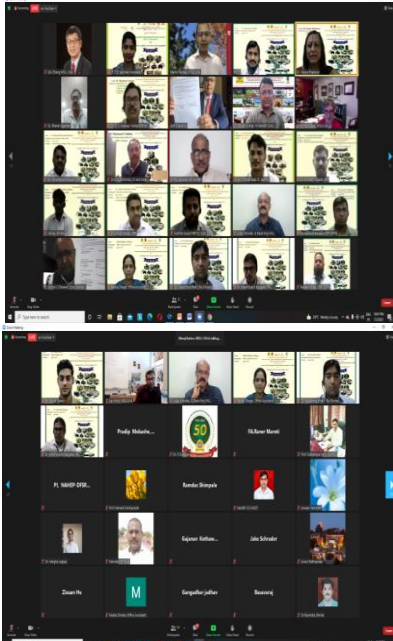
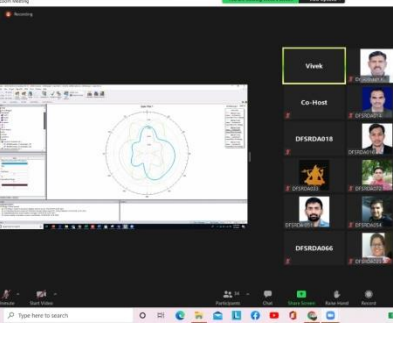
ACTIVITIES and EVENTS Conducted during 01 May 2021 to 30 September 2021

129	03/05/2021	Prepared Food Processing Automation (FPA) Information Brochure	
130	18/05/2021	Co-Hosted NAHEP-CAAST, VNMKV, organized a zoom meeting on occasion of VNMKV University Foundation Day for “खरीप शेतकरी मेळावा”	
131	19/05/2021	Meeting with Dr. Jwale Sir Regarding Dates Planting and PHT of Dates	
132	20/05/2021	Discussion with PI Sir and FPA Core Team Members along with Dr. H N Rokade and Mr. Nagesh Hiware regarding Value	



		addition of castor seed oil and DOC	
133	25/05/2021	Finalise the MOU draft with CHAMBER FOR ADVANCEMENT OF SMALL AND MEDIUM BUSINESSES, Mumbai	
134	27/05/2021	Organised a Review Meeting with PG PHD Research scholar from Food Technology College on Ongoing research activity	
135	28/05/2021	Host the Online Zoom Meeting for Director of Extension Education Department on BBF Planter for Farmers of Marathwada Region Organised by KVK Aurangabad. 460 Farmers are participated in this meeting	
136	04/06/2021	CO-HOST for Seed Production and Planning Zoom Meeting	
137	06/06/2021	Celibration of World Enviroment Day	
138	07/06/2021	Co-Host and Co-ordinator for a Four Week Training Programme on “APPLICATIONS OF COMPUTER AIDED ENGINEERING IN AGRICULTURE” scheduled during 07th June to 03 rd July 2021.	 <p>The image shows a poster for a National Level Online Hands-on Four Week Training Programme titled "APPLICATIONS OF COMPUTER AIDED ENGINEERING IN AGRICULTURE" held from 07th June to 03rd July 2021. The poster features logos of NHEP, DFSRDA, and ICAR, along with various agricultural machinery icons. Below the poster is a screenshot of a Zoom meeting with several participants, including Dr. Anurag Nayak, E. Anurag Deshmukh, and Shivam Shingra.</p>



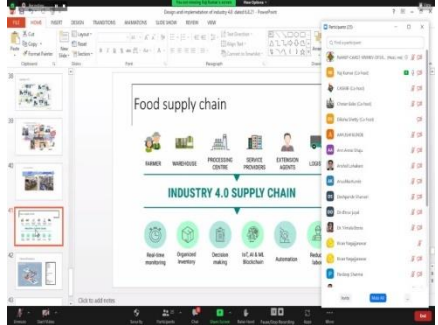


139	23/06/2021	Dr. Avanish Kakade, Senior Research Fellow & Dr. G. U. Shinde, Principal Investigator, NAHEP-CAAST, VNMKV Parbhani Published Marathi Article on “अन्न प्रक्रियेमध्ये ३ डी प्रिंटिंगची तंत्रे” in Agrowon Daily Magazine.	
140	02/07/2021	The MoU between NAHEP-DFSRDA, VNMKV, Parbhani & Washington State University, Pullman, USA the two international organizations will include agricultural education, research as well as exchange of students, faculties and scientists from universities. Information on modern technologies in agriculture such as drone technology, robotics, artificial intelligence, precision agriculture, automated machinery etc. will be exchanged.	
150	05/07/2021	Co-Host and Co-ordinator for a Four Week Training Programme on “APPLICATIONS OF COMPUTER AIDED ENGINEERING IN AGRICULTURE” scheduled during 07th June to 03rd July 2021 and Valedictory function of training on 05/07/2021	



<p>151</p>	<p>01/08/2021</p>	<p>Mr. Rahim Khan, Junior Research Fellow, Dr. Rokade H. N., Senior Research Fellow, Er. Kapgate K. M., Research Associate, Dr. Avnish Kakade, Senior Research Fellow, Dr. G. U. Shinde, Principal Investigator, NAHEP VNMKV Parbhani Published Marathi Article on “Atomized Hydroponic System by Using Modern Digital Tools” in AgriCos e-Newsletter</p>	
<p>152</p>	<p>02/08/2021</p>	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Total Participant – 36</p> <p>Day 1] Speaker – Mr. Satyawart Kulkarni, Technical Director/R&D Innovation, Farm to Fork Solutions</p> <p>Topic – Enhance food quality, operational productivity and compliance</p>	



153	03/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 2] Speaker – Senior Data Science Manager, BASF SE, Germany.</p> <p>Topic – IOT in food trade & retail management</p>	
154	04/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 3] Speaker – Dr. Sagar Gokhale, Ojman Foodbio, Co-founder and partner.</p> <p>Topic – Inventory Management</p>	
155	05/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 4] Speaker – Mr. Aniket Gawai, Doctoral Researcher & Academic Mentor, University of Reading, UK Food Supply Chain Transparency & Traceability</p>	

		<p>using Blockchain Technology</p> <p>Topic – Food traceability solution and blockchain management</p>	
156	06/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 5] Speaker – Mr. Raj Kumar, Consultant, Auditor, Training & Certifications</p> <p>Topic – Design and implementation of Industry 4.0 solutions in traditional factory settings</p>	
157	07/08/2021	<p>Governor of Maharashtra Hon. Bhagat Singh Koshiyari visited to NAHEP-CAAST VNMKV, Parbhani</p>	 <p align="center">Grand Welcome to Hon. Bhagat Sing Koshiyari by Hon. Vice Chancellor Dr. Ashok Dhawan, Dr. D. N. Gokhale& Dr. G. U. Shinde</p>  <p align="center">Hon. Bhagat Sing Koshiyari with NAEHP Team</p>

<p>158</p> <p>09/08/2021</p>	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 6]</p> <p>Speaker – Mr. Sanjay Indani, Lead auditor ISO 22000, FSSC 22000, ISO 9001, BRC FOOD, SA 8000, NRP FoSTaC-FSSAI, APEDA Consultant-Food Safety.</p> <p>Topic - Supply chain management, Traceability and product recall</p>	
<p>159</p> <p>10/08/2021</p>	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 7]</p> <p>Speaker – Mr. Ritesh Mathur, Senior level leading R&D for McDonalds, Danone, General Mills, Givaudan, Godfrey Phillips and Raptakos & founder of F2F Solutions</p> <p>Topic - R&D innovation in food processing</p>	
<p>160</p> <p>10/08/2021</p>	<p>Dr. Avinash Kakade Senior Reserch Fellow, & Dr. Gopal Shinde, Principal Investigator, Dr. Shyam Garud, Core Team Member, Dr. R. B. Kshirsagar, Core Team Member, Dr. B. S. Agarkar, Core Team, NAHEP VNMKV Parbhani Published English Article on “3D Food Printing Scope</p>	



		<p>And Limitations” in Ropan Monthly Magazine.</p>	
161	11/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 8] Speaker – Ms. Chinmayee Deulgaonkar, Managing Director at FoodChain ID (SWA).</p> <p>Topic - Certification and accreditation essential</p>	
162	11/08/2021	<p>Raheem Khan, JRF (SSPN), Khemchand Kapgate , RA (Agri-Bot), Dr. Hemant N Rokade, SRF (SSPN), Avinash Kakade, SRF (FPA) NAHEP VNMKV Parbhani Published English Article on “Propagation Media used in Nursery/ Polyhouse” in Ropan Monthly Magazine.</p>	



			<p>ventilation is in poor physical stability after sowing. Particles which have been incised, wetted and compressed do not recover physically. Compression of moist vermiculite causes the expanded particles to collapse and frequently slip apart.</p> <p>Perlite: Perlite is a volcanic rock that is crushed and heated rapidly to a high temperature forming a white, light-weight aggregate with high pore space. Perlite is selected extensively for its light weight, physical stability and ability to improve the drainage or aeration. The water-holding capacity of perlite is increased if the sand is used sparingly. Deep-rooted. While Moroccan sands are mainly silica. These silica sands are called sharp or builders sand because the sand particles have the sides.</p> <p>Rockwool: Rockwool is manufactured from natural cotton fibers through a heating and fibering process. Hydrophilic-grade rock wool is characterized by a preferred higher density to provide the air and water-holding requirements of plants. A distinct characteristic of rock wool is its high water-holding capacity even when fully saturated. Rockwool contains only very small amounts of nutrients such as calcium, magnesium, sodium, iron, copper, and zinc. Nutrients availability is dictated by the nutrient solution applied. The pH of rockwool is between 7.0 and 8.1 (often 8.0) but is not buffered. Mixing it with an acid component,</p> <p>such as peat bark or peat moss, will immediately lower the pH level. The pH level of the rockwool will adjust to the nutrient solution pH level after one application.</p> <p>Benefits of Propagation media</p> <ul style="list-style-type: none"> • An optimum rooting environment for physical stability • Storage of air for the roots, when needed. • Water absorption and retention and make available to the plant when needed. • Supply of nutrients for the roots. • Healthy growth of plants. • Reduced chances of disease and pest attack. <p>Note: All the images are taken from Internet.</p> <p>1. Soil A5451 less media Under Protected cultivation by Orac Inc.</p> <p>2. Growing Media for Openairland Plants and Turf by Kevin Handker and Neil Black.</p>
163	12/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 9]</p> <p>Speaker – Ms. Subhpradha Nishthala, Director Incharge at ITCFSAN President of AFST-Mumbai Chapter</p> <p>Topic - Food safety and quality management</p>	
164	13/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Day 10]</p> <p>Speaker – Mr. Sukanta Bhattacharyya, Head of Packaging - Packaging Consultant Role at ORAC Lifesciences Pvt. Ltd.</p> <p>Topic - Packaging Technology</p>	



165	14/08/2021	<p>NAHEP-CAAST VNMKV, Parbhani Organized Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p> <p>Valedictory Session: 4.00 to 5.00 PM</p>	
166	21/08/2021	<p>Attended Turmeric Processing Webinar delivered by Core Team Member Dr. R B Kisharsagar</p>	
167	22/08/2021	<p>Finalise and overview the food technology unit lab work and added the vendor to PFMS for financial Procedure</p>	
168	31/08/2021	<p>Certificates distributed to all 36 participants of Two Week Online Certificate Course on “Food Processing & Automation” in collaboration with Chamber for Advancement of Small & Medium Businesses (CASMB), Mumbai</p>	



CENTRE OF EXCELLENCE FOR DIGITAL FARMING SOLUTIONS FOR ENHANCING PRODUCTIVITY BY ROBOTS, DRONES and AGVs.

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169	21/09/2021	<p>1 Day online Workshop Jointly Organizing by IIT Bombay and NAHEP CAAST VNMKV, Parbhani Total Participants: 70 eYIC 2021 Hackathon Topic: Articulating Agricultural Problems Speaker: 1 Prof Kavi Arya, IIT Bombay 2 Prof Amit Arora IIT Bombay 3 Prof P. Udmale IIT Bombay 4 Dr G. U. Shinde PI NAHEP VNMKV, Parbhani</p>	
170	27/09/2021	<p>1 Day online Workshop Jointly Organizing by IIT Bombay and NAHEP CAAST VNMKV, Parbhani Total Participants: 70 eYIC 2021 Hackathon Topic: Articulating Agricultural Problems Speaker: 1 Prof Kavi Arya, IIT Bombay 2 Prof Amit Arora IIT Bombay 3 Prof P. Udmale IIT Bombay 4 Dr G. U. Shinde PI NAHEP VNMKV, Parbhani</p>	



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National Agricultural Higher Education Project

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