

ICAR-National Agricultural Higher Education Project

Annual Progress Report: April 2020 to March 2021

Component 1c: Innovation Grants (IG)

Dr. PDKV, Akola



Executive summary

Name of the AU: Dr. PDKV, Akola

**Project Title: National Agricultural Higher Education Project (Innovation Grant)
“Capacity Building and Skill Development in Renewable Energy”**

Executive Summary:

In green energy initiative and to reduce greenhouse gas emission renewable energy plays a very important role. Keeping in view the objective to develop skill as well as capacity building of students and faculties the various activities like Brain storming e-workshop, industry - institute e-meet, e-trainings (National), e-conference (National), e-trainings for students (in-plant training and summer training), Two-weeks e-training for student regarding preparation of competitive examinations like AIEEA/AICE/ICAR, online debate competition for undergraduate students, National e-workshop for students on personality and leadership development were organized to enlance the skills of the students and faculties.

The various activities were organized for the faculty as well as for the students. These activities have arranged with the main emphasis on capacity building and skill development in renewable energy. During these programs for student’s various renewable energy-based prototypes, its use and necessity, its design development were discussed at length and online demonstration of the systems were shown wherever necessary. Hence the awareness, was created about the renewable energy technology-based entrepreneurship and its utilization in agriculture and for domestic sector. The participants from various disciplines of agricultural science were participated in the various training from all over the country. The concept of entrepreneurship opportunities and development in renewables as well as in agriculture has been percolated in students through faculty members.

Progress made during FY 2020-21 under NAHEP

1.1. Output-outcome monitoring

S. N.	Particulars	Apr'20 to March'21		Remarks (Action plan for areas where improvement is needed)
		Plan	Achievement	
1.	Number of AUs accredited with revised norms and standards of ICAR	N.A.	01	
2.	Number of short-term institutional objectives finalised by AU	03	03	
3.	Number of long-term institutional objectives finalised by AU	02	02	
4.	Number of innovation grants given	N.A.	01	
5.	Number of e-enabled learning activities initiated in AU (MOOC platform, virtual labs, video lectures)	Nil	Nil	
6.	Number of trainings (national and international) undertaken for faculty upgradation	03	02	
7.	Number of international trainings undertaken by faculties under IG comp	01	Nil	
8.	Number of national trainings undertaken by faculties under IG comp	02	02	
9.	Number of international trainings undertaken by students under IG comp	Nil	Nil	
10.	Number of national trainings undertaken by students under IG comp	02	03	
11.	Number of Master and Ph.D students Sandwich Programme undertaken with foreign universities/ National institutions	Nil	Nil	
12.	Number of alumni linkages to secure international branding	Nil	Nil	
13.	Centres for career development established	Nil	Nil	
14.	Number of industry seminars and professional workshops from experts to better prepare students for final placements	04	04	
15.	Number of direct beneficiaries of the project	1970	6742	
16.	Number of female beneficiaries out of total direct beneficiaries	591	2090	

Observation

Nil

1.2. Input and activity monitoring

Total funds received during 2020-21 by PIU (INR Lakhs)	82.40
Total funds received till 2020-21 (Cumulative) (INR Lakhs)	475.70
Total expenditure during the year 2020-21 (INR Lakhs)	85.50106
Total expenditure till 2020-21 (Cumulative) (INR Lakhs)	451.07030

Input / Activity indicator	Sub- head / category	Apr'20 to March'21 Expenditure / input in INR lakhs		Activity elaboration
		Utilization	Planned	
Goods and equipment	Equipment, Plant & Machinery	0	0	
	Office equipment	0	0	
	Laboratory equipment	9.99030	10.00	Anemometer (01 No.), Dry Bulb thermometer (01 No.), Data Logger (01 No.), Computerized solar wind hybrid system trainer (01 No.)
	Furniture & fixtures	0	0	
	Computers and Peripherals	0	0	
	Books and Journals	0	0	
	Civil works	Minor repair and renovation work	0	0
Human capacity building	National level training	9.73077	10.00	<p>Online Summer training for students “Skill development and entrepreneurship development in renewable energy” (1 -30th June, 2020)</p> <p>Two-weeks online training “Preparation of competitive examinations AIEEA/AICE/ICAR” (21-31 July, 2020)</p> <p>National e-Training “Indian agricultural education system and entrepreneurship scope in 21st century” (05-14 August, 2020)</p> <p>National e-Training Environmental practices and Renewable Energy Utilization (05-14 January, 2021)</p>

Input / Activity indicator	Sub- head / category	Apr'20 to March'21 Expenditure / input in INR lakhs		Activity elaboration
		Utilization	Planned	
				In plant e-Training “Capacity Building and Skill Development in Renewable Energy” (1 Jan – 30 April, 2021)
	International level training	0	10.00	
	Short visit/ seminars	9.98498	10.00	National e-Conference “Agricultural Education, Innovation and Research for future livelihood Indian Scenario in 2050” (28-29 January, 2021)
	Meetings and workshops	2.76948	10.00	Four Days National e-Workshop “Personality and Leadership Development Program for Agroneers” (22-25 Sept.,2020)
Consultancy	National level consultancies	0	0	
Recurrent cost / Miscellaneous	Travel	0.45557	6.00	
	Contractual services	38.88142	36.80	
	Operational costs	13.68854	13.90	
	Institutional charges	0	0	
Total		85.50106	106.70	

Observation
Nil

NAHEP outreach and other unique initiatives undertaken

Please provide the brief progress undertaken against the different categories placed below along with the suitable photographs/links/documents etc. Please note that only significant activities/initiatives are to be incorporated in this document, you may share the detailed stories through separate mail.

a) Case studies/success stories developed under NAHEP

(establishment of own enterprise by beneficiary student/high-impact research carried-out by AU under NAHEP/enhanced students learning outcomes due to establishment of modern facilities under NAHEP etc.)

Illustrative: Success story

Agri startup (Vermicompost and butter Mushroom)



Mr. Om Gulhane is an Alumni of College of Agricultural Engineering & Technology, Dr. PDKV, Akola. In the year 2018-19, he has participated in Summer Training, In-plant Training and Industry –Institute Meet organized by NAHEP –IG, Dr. PDKV, Akola. During the industry-institute meet, he inspired by the speech of entrepreneurs on their journey to become entrepreneur. Now, he has his two start-ups i.e. Kamal Agrotech & Vaitulaya Agro Producer Company at his native place At. – Karanja (Lad), Dist.- Washim, Maharashtra State. The main products are vermicompost and button mushroom.

Biomass based air heating system for the thermal application

The biomass-based air heating system is designed and developed under NAHEP and installed at Biomass Experimentation Lab, Dr. PDKV, Akola. The developed system is useful for drying of grains, vegetable and medicinal crops. The system is operating on the controlled mechanism and it helping students to enhance the skill during the practical's and leads towards the entrepreneurship.



Development of battery electric vehicle sprayer

Innovation on Battery electric vehicle sprayer is allotted under Innovative Research. The development of the technology is completed. This is a new concept and beneficial to the farming community by utilizing green energy & it is helpful to reduce dependency on fossil fuels.



Biogas based Electricity Generation Plant

The biogas-based electricity generation system developed under NAHEP at University Dairy, Dr. PDKV, Akola. The biogas of 50 m³ run successfully & electricity is being supplied to dairy barn and PG students are conducting experiments on scrubbing of biogas for power generation. This developed system is useful for the conducting practical's and enhancing skill of the students and faculties.



Facilities for benefits of the students

Students from all four state agricultural universities of Maharashtra participated in the In -plant training of four month duration organized by NAHEP (IG), Dr. PDKV, Akola. The state of art facilities for student's hands on training are developed. The students were gone through the actual practical's of making value added product from agro-produce with the help of solar based technologies.



Other facilities for benefits of the students



Solar Energy Lab



Renewable Energy Fabrication Lab



Advanced Bioenergy Lab



Conference Hall

b) Knowledge management and outreach initiatives (development of collaterals, newsletter, social media outreach activities, creation of website, experiential learning workshop, exposure visits, etc.)

S.N	Category of the collateral	Brief summary	Snapshot/cover page	Weblink (if any)
1	Website	NAHEP (IG), Dr. PDKV, Akola		https://pdkv-nahep.org/
2	Reports (Technical Compendium)	No.Booklet/PDKV/PUB/ 545 /2018, Technical Compendium of National Training on Prospects of Entrepreneurship in Agriculture and Renewable Energy (Duration: 22 November to 01 December, 2018)		
3	Reports (Technical Compendium)	No.Booklet/PDKV/PUB/562/2019, Technical Compendium of International Training on Capacity Building and Skill Development in Renewable Energy (Duration: January 01-10, 2019)		
4	Reports (Technical Compendium)	Book/PDKV/PUB/566/ 2019, Technical Compendium of International Conference on Entrepreneurship in Agriculture and Renewable Energy Sector (March 15-16, 2019)		
5	Reports (Technical Compendium)	No.Booklet/PDKV/PUB/583/2019, Technical Compendium of National Training on Issues of Entrepreneurship in Agriculture and Technology (Duration 05-14 November, 2019)		

6	Reports (Technical Compendium)	No.Booklet/PDKV/PUB/584/2019, Technical Compendium of National Conference on Agricultural Engineering:50 Years in Service of Farmers through Agro- Entrepreneurship (Duration: 29-30 November 2019)		
7	Reports (Research Journal)	Multi logic In Science Journal, Vol VIII, Special Issue A & B, NAHEP ICAR Sponsored International Conference on EARES -2019, at Dr. PDKV, Akola		

c) Unique initiatives undertaken due to Covid-19 disruption

1. Digital infrastructure

Modernize three laboratories and one conference room equipped with state of art equipment & instruments through fund received in NAHEP (IG), Dr. PDKV, Akola.

2. Digital initiatives:

(organizing trainings through online, conducting online examinations, administering attendance, developing of web applications, e-learning modules etc.)

S.N	Category of the collateral	Digital initiative	Practice before introduction of the initiative	Practice after introduction of the initiative
1	Online Trainings	Five trainings were organized through online mode	NAHEP staff- trained for application of various virtual platform. The internet facility is updated as per requirement of virtual platform.	The digital attendance of participants, conduct online exam of trainee, e-certificate distribution as per the attendance and feedback form and

Please provide maximum 5 photographs with high quality (minimum 1-2MB) and label with suitable caption. Attach the photographs separately in the mail.



Online Summer training for students

“Skill development and entrepreneurship development in renewable energy” (1 -30th June, 2020)



Brain Storming e-workshop

“Student empowerment in current scenario of agricultural education” (20 July, 2020)

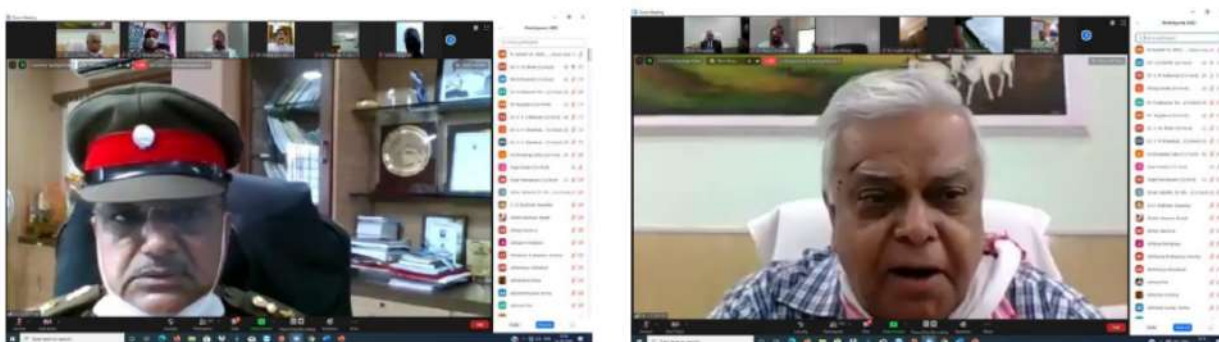


Industry -Institute e-Meet

“Innovative start-ups in agricultural sector” (30 July, 2020)



Inaugural program



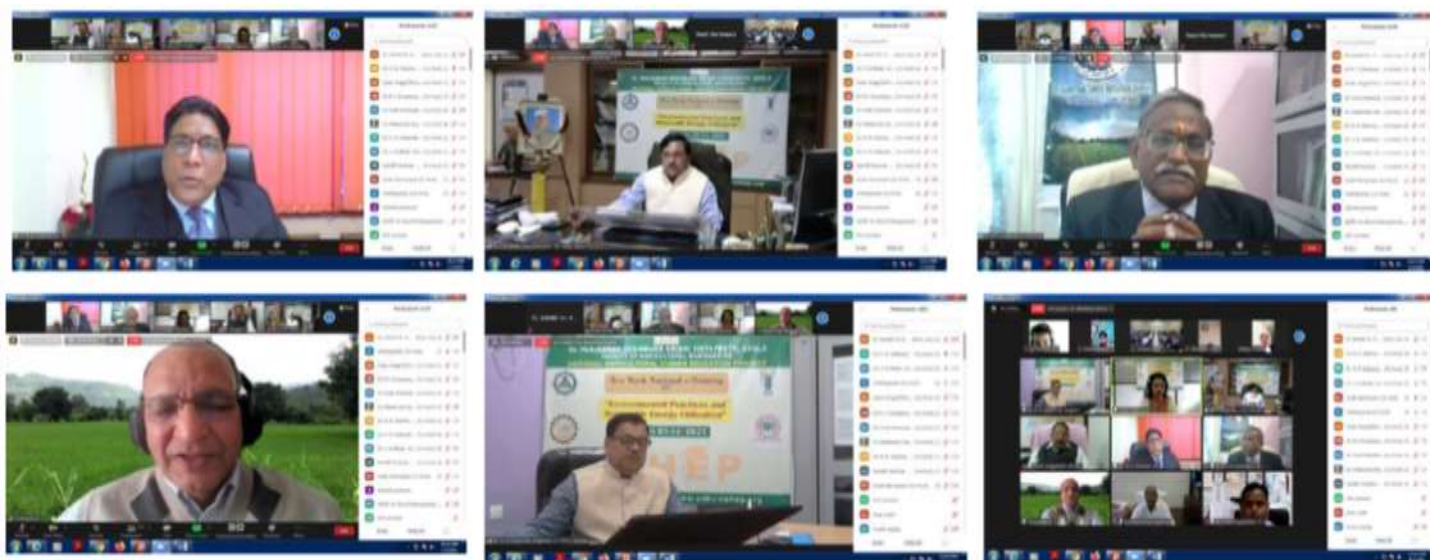
Valedictory program

National e-Training

“Indian agricultural education system and entrepreneurship scope in 21st century” (05-14 August, 2020)



Four Days National e-Workshop
“Personality and Leadership Development Program for Agroneers” (22-25 September, 2020)



Inaugural program



Valedictory program

National e-Training
Environmental practices and Renewable Energy Utilization (05-14 January, 2021)



Inaugural program



Valedictory program

National e-Conference
“Agricultural Education, Innovation and Research for future livelihood Indian Scenario in 2050”
(28-29 January, 2021)

Challenges faced and lessons learned while implementing the project at your AU:

Challenges	
1	Covid pandemic is the main obstacle for organization of the events. The events such as Alumni Meet at College level which is having limitations to organize through online mode, due to this the activity is cancelled after the complete planning.
Lessons learned	
1	Automatic hand sanitizer installed at Office premises; the internet facility is updated looking to the organization of various program through online mode.
2	Virtual program organization needs on time communication with the participants.

Plan ahead (Key activities) for next reporting period:

1	The procurement under the project is completed
2	Alumni meet of Agricultural Engineering – 01 No.
3	Expert Lectures series – 08 No.
4	Industry Institute Meet – 01 No.