'A' Grade
NAAC Re-accredited
(3rd Cycle)

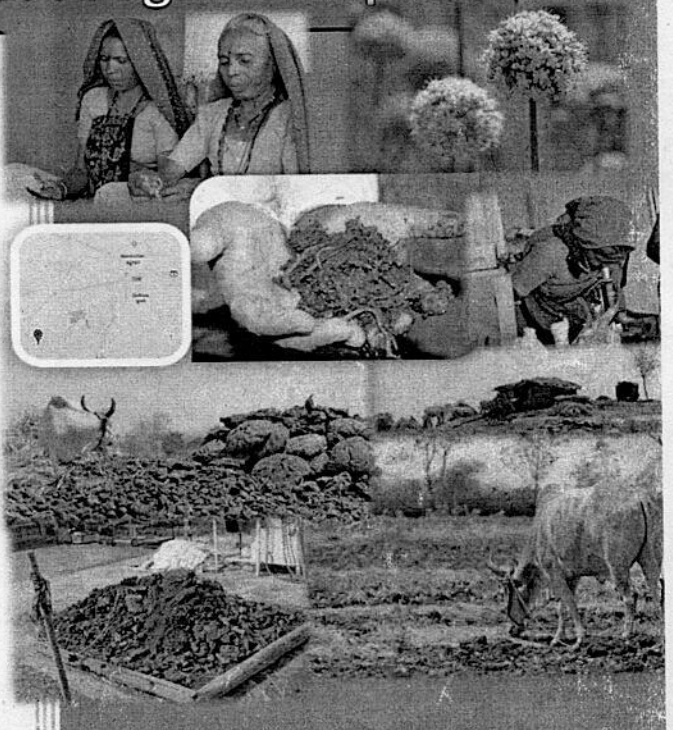
Community-based training to Scheduled Tribe Youths on Biomass Conversion and Utilization for Sustainable Agriculture, Green Energy and Biotechonomy

Programme in support of KBCNMU's

Lab-To-land

Programme

1st Progress Report



राष्ट्रीय विज्ञान अकादमी, भारत
प्रायोजित
[NAS/414/10/18-19 dated 17/10/2018]

28.2.2019 - 2.3.2019

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जैवशास्त्र प्रशाळा
कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ
जळगाव-425001 (महाराष्ट्र)

Table of Contents

Project Report for Science & Technology intervention in various activities for the welfare of scheduled tribes under 'NASI-ST Sub Plan'

1. Title of the Project:

Community-based training to Scheduled Tribe Youths on Biomass Conversion and Utilization for Sustainable Agriculture, Green Energy and Biotechonomy

2. Name of the Principal Investigator:

Dr. Navin D. Dandi (Assistant Professor)

School of Life Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University (KBCNMU), Jalgaon – 425001 (MS)

3. Objective(s):

Conventional farming methods relied upon indiscriminate applications of chemical fertilizers and excess irrigation. This has resulted in almost non-application of organic carbon and has reduced beneficial soil microflora ultimately leading to salinity and infertility of soil with poor soil formation. These conditions need to be replaced by application of biofertilizers with the synergy of other organic inputs.

Hence, the following objectives were proposed:

Short-term Objectives:

- set-up a demonstration-scale biofertilizer production facility at University Satellite Centre at Nandurbar, a region with one of the highest number of ST population (69.28%) in North Maharashtra
- produce and promote the use of liquid biofertilizers, compost, vermicompost, biopesticides, biogas etc. and convince its role in increasing the fertility of agricultural soil through awareness programmes under the supervision of trained staff and visiting faculty
- facilitate hand-on training on the aspects of production and quality control to young farmers and labourers of ST community in lean agricultural seasons at Nandurbar region

- select a group of young and enthusiastic ST community candidates interested to set-up their own production facility in a phase-wise manner
- keep the trained candidates appraised of advances in Science & Technology and act as a nodal point for production and distribution of biofertilizers to other farmers in the region

In long-term, the endeavour aims to facilitate and

Long-term Objectives:

- provide region-specific and time-tested biofertilizers to the farmers
- organize field trials on small scale basis for demonstration of biofertilizer efficacy on different crops; and
- promote biofertilizer use in an effective manner, training to farmers and ST population, both men and women on various aspects of biofertilizer storage, handling and application for optimal efficacy
- create self-employment opportunity among the ST community and bring out social and financial upliftment

4. Time Duration (in years): 2 Years (1st Nov-2018 to 31st Oct-2020)

5. Sanctioned amount (with FY):

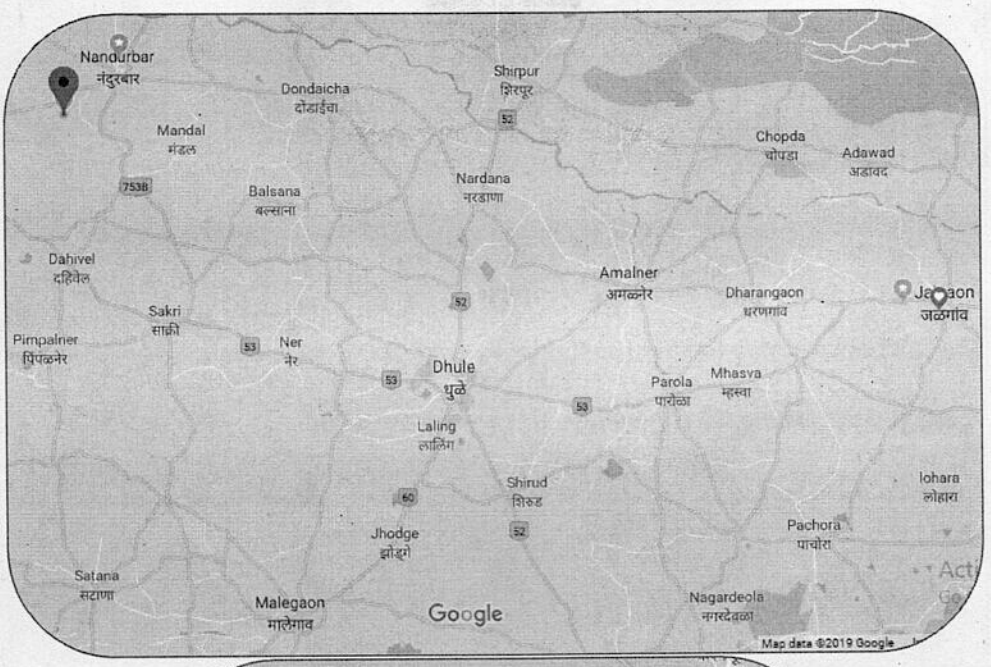
For Financial Year 2018-2019 Amount of Rs. 4.088 (Four Lakh Eight Thousand Eight Hundred only) was allocated.

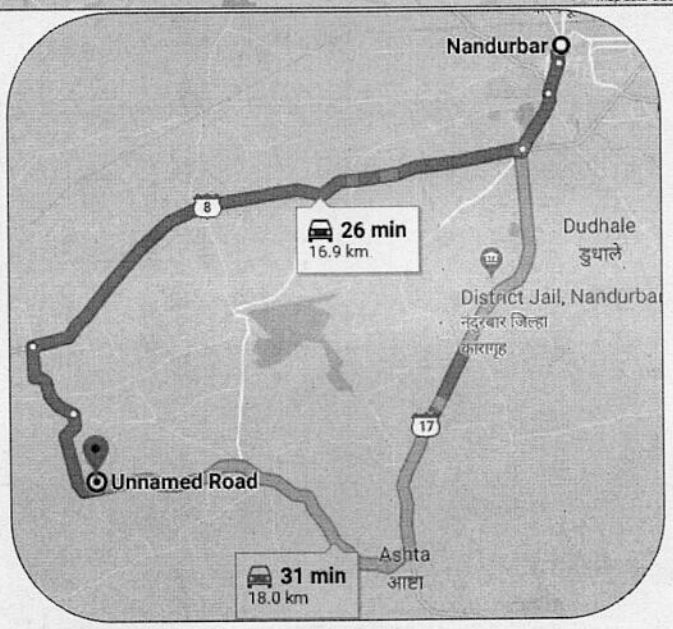
6. Current financial status:

During the current FY (1st November, 2019 to 31st March, 2019), a sum of ₹1,15,784/- (One Lakh Fifteen Thousand Seven Hundred and Eighty Four Only) has been Utilized and Rs. 2,93,016/- (Two Lakhs Ninety Three Thousand and Sixteen Only) is remaining. A duly audited Statement of Expenditure (SE) and Utilization Certificate (UC) is attached herewith for kind reference.

7. Implementing area/region (with map):

Based on the proposed objectives, a total of 6 training workshops are planned during a span of 2 years i.e. from 1st November 2018 to 31st October, 2020 (2 batches of 20 ST candidates each in the 1st Year; and 4 batches of 20 candidates in the 2nd Year of implementation).





8. Report of the activities held so far with photographs:

Considering lean agricultural season and a preliminary survey, we have conducted the 1st Training Workshop at a farmland near Navagaon (Shitalpada) village, Dist. Nandurbar (M.S.) (Lat. Lon.: 21°17'41.7'N. 74°9'07.3"E). The venue was located about 180 Km from the University and 17 Km from Nandurbar city in an agricultural field near the village. Th workshop was organized for a duration of 4 days (29 February, 2019 to 2 March 2019)

The venue was selected based on the organic agriculture practice adopted by the field owner and various small-scale organic farming production set-up facilitated by BAIF viz. biogas, composting, vermicomposting, low-cost carrier-based phosphate solubilizing biofertilizer production unit, etc. A group of 20 farmers were registered for the workshop from 5 nearby villages: *Bal Amrai* (3 farmers), *Kalamba* (5 farmers), *Navagaon* (4 farmers), *Nandarkheda* (4 farmers) and *Ozarde* (4 farmers).

The farmers were registered and provided with a welcome kit bearing organic fertilizer information booklet printed in *Marathi*. Throughout the workshop, Marathi language was used, and translated to local language whenever required. The workshop was inaugurated by Prof. A. B. Chaudhari (Co-PI; Professor and Head, Dept. of Microbiology, School of Life Sciences, K.B.C.N.M.University, Jalgaon) on 27th February, 2019. On the dais, were the BAIF officials- Dr. Lilesh Chavhan, Mr. Devendra Patil and Mr. Ganesh Patil along with 1st registered farmer and farmland owner: Mr. Dharamdas Bagul.

The programme was initiated by floral welcome of the dignitaries on the dais as well as each of the registered participants. Then, preface of the NASI sponsored project, the workshop and University was presented by Dr. Navin D. Dandi (PI, NASI Project). The program was inaugurated by traditional lamp lightening by the dignitaries. Then, Prof. A. B. Chaudhari, Co-PI and Head, Dept. of Microbiology, School of Life Sciences of KBCNMU, Jalgaon. highlighted the importance of plant-microbe interaction and organic farming practices. The inaugural session was concluded with a group photograph of the participants with the dignitaries.

The inaugural ceremony was followed by the Lead Lecture by Prof. A. B. Chaudhari and highlighted on the composition of soil, types of microbes found in soil, water and air and their ecological importance for successful agriculture. He also pointed out the ill effects of overuse of chemical fertilizer and the deterioration of soil quality over the past 3 decades. In the post-lunch practical session, the participants were introduced to the laboratory glassware, chemicals, autoclave, culture media, typical microbiology laboratory setup and certain alternatives. Participants performed sample collection from root nodules, prepared suspensions and stained the nitrogen fixing bacteria for observation under a microscope. Participants were fascinated to see live bacteria under hanging drop slide preparations. Participants were taught to prepare cost-effective culture medium from jaggery and flour for multiplication of such microbes. The media was sterilized and inoculated by the participants to conclude for the day.

On the second day, Dr. B. L. Chaudhari (Co-PI), School of Life Sciences of the University visited the venue and conducted theory and practical sessions on the aspects of Green Revolution and low-cost bioreactor construction, respectively. In the oral session, he emphasized on the need of hour to adopt organic farming practices and economic benefits in the long run. In post-lunch practical session, the participants were introduced to the microbial bioreactor and know-how of cost- effective home-made bioreactor construction using a plastic tank with modifications for agitation and finally, quality control of biofertilizers.

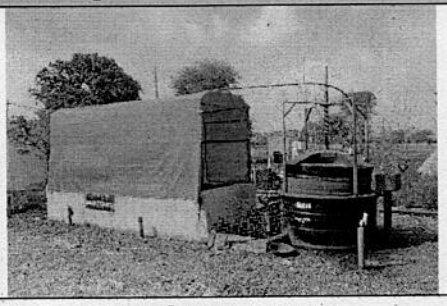
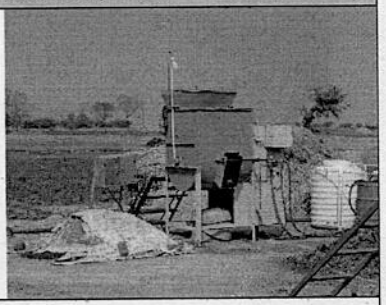
On the third day, Mr. Ganesh Patil, Field Officer, BAIF, Nandurbar conducted theory and practical session on the aspect of biogas plant and production of Bio-prom, a low-cost carrier-based P-solubilizing biofertilizer. In post-lunch practical session, Dr. Swapnil Khare, Scientific

Officer, Lab to Land Unit, Amalner conducted soil sample analysis using Hi-media kit. Soil samples were collected from the nearest farmland following the randomized composite sampling principle. Participants were divided into five groups and each group was guided for five parameter soil testing comprising total organic carbon, pH, potassium, phosphate and nitrogen content.

On the final day of the workshop, Dr. Navin D. Dandi (PI), School of Life Sciences of the University conducted theory session on concept of Biomass Conversion comprising of biomass types, specialized biomass crops and conversion of agricultural residue biomass to starch, compost and vermicompost. In post-lunch practical session, the participants were introduced to know-how of vermicomposting. Finally, post-practical session, farmers were asked to share their experience followed by certificate and stipend distribution, In the concluding session, Dr. Navin D. Dandi (PI, NASI) and Mr. Ganesh Patil (BAIF) expressed vote of thanks.

GLIMPSES OF THE WORKSHOP

The bio-input production facilities utilized at the venue- Navagaon (Shitalpada), Dist. Nandurbar organized during 28th February, 2019 to 2nd March, 2019

Inaugural ceremony

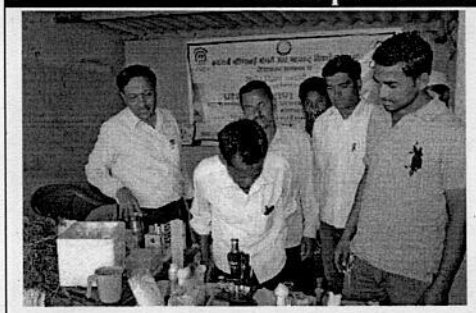
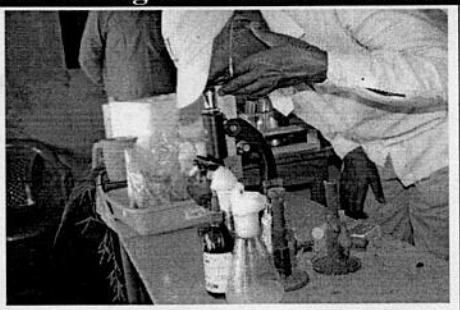
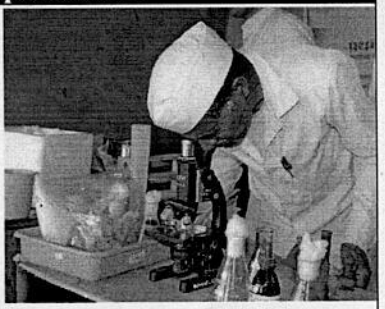
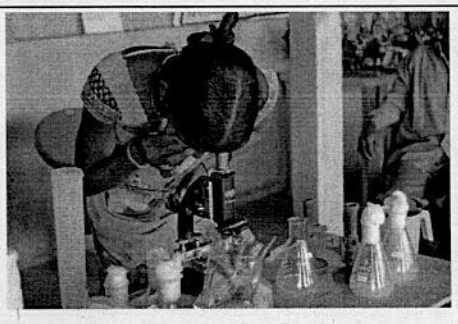





Participants in Action during the Hands-on Workshop Sessions

Project Coordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

Participants in Action during the Hands-on Workshop Sessions




Publicity Regarding Organization of Workshop in Local Newspapers

दै. महाराष्ट्र टाइम्स- 01मार्च, 2019

जैवतंत्रज्ञान कार्यशाळेस विद्यापीठात सुरुवात

म. टा. प्रतिनिधी, जळगाव

अनुसूचित जमातीच्या तरुणांना मिळणार मार्गदर्शन

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठाच्या जैवशास्त्र प्रशाळेच्या वतीने नंदुरबार जिल्ह्यातील नवगाव (शितलपाडा) येथे अनुसूचित जमातीच्या समुदायातील तरुणांसाठी शाश्वत शेती आणि जैवतंत्रज्ञानावर आधारित अर्थव्यवस्था प्रशिक्षण कार्यशाळेला बुधवार (दि. २७) पासून प्रारंभ झाला.

चार दिवसांच्या या प्रशिक्षण कार्यशाळेत वीस स्थानिक तरुणांना प्रशिक्षण दिले जाणार आहे. राष्ट्रीय विज्ञान अकादमीने यासाठी सहकार्य केले असून, जैवशास्त्र प्रशाळेतील प्रा. ए. बी. चौधरी यांनी उद्घाटनाच्या सत्रात माती, सुक्ष्मजीव आणि शेती या विषयांवर मार्गदर्शन केले. या प्रशाळेतील डॉ. नवीन दंदी यांना दोन वर्षांसाठी संशोधन प्रकल्प मंजूर झालेला आहे. त्या अंतर्गत ही कार्यशाळा होत आहे. शेतीत जौविक खतांचा योग्य पद्धतीने वापर केल्यास पडीक व नापिक जमिनी पुन्हा पिकाखाली आणल्या जाऊ शकतात. शिवाय कमी खर्चात अधिक उत्पादन मिळवता येते. हे या प्रशाळेने केलेल्या पाहणीत व संशोधन सिद्ध झाले आहे. प्रयोगशाळा ते जमीन प्रकल्पांतर्गत वीसपेक्षा अधिक कार्यशाळा जळगाव व धुळे जिल्ह्यात घेण्यात येऊन ४०० शेतकऱ्यांना यापूर्वी प्रशिक्षण देण्यात आले आहे. आता नंदुरबार जिल्ह्यातील अनुसूचित जमातीच्या शेतकऱ्यांना जौविक साधन-सामग्रीची ओळख व्हावी यासाठी ही कार्यशाळा होत आहे. प्रा. भूषण चौधरी, गणेश पाटील, डॉ. नवीन दंदी हे यावेळी मार्गदर्शन करणार आहेत.

दै.पूण्यनगरी- 07मार्च, 2019

विद्यापीठातर्फे चार दिवशीय प्रशिक्षण कार्यशाळा

जळगाव : कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ व राष्ट्रीय विज्ञान अकादमी यांच्या संयुक्त विद्यमानाने आयोजित चार दिवशीय प्रशिक्षण कार्यशाळा नंदूरबार जिल्ह्यातील नवंगाव (शीतलपाडा) येथे पार पडली. या कार्यशाळेत अनुसूचित जमातीच्या समुदायातील शेतकऱ्यांना शाश्वत शेती, हरित ऊर्जा, कंपोस्ट खत निर्मिती व जैवतंत्रज्ञान आधारीत अर्थव्यवस्था या विषयांवर प्रशिक्षण देण्यात आले.

चार दिवसाच्या या प्रशिक्षण कार्यशाळेत वीस शेतकऱ्यांना प्रशिक्षण देण्यात आले. या कार्यशाळेच्या पहिल्या दिवशी प्रशिक्षक म्हणून जौवशास्त्र प्रशाळेचे प्रा.ए.बी.चौधरी यांनी सुक्ष्मजीव यांची ओळख व त्यांना वाढीसाठी लागणारे साहित्य व त्यांचे खाद्यपदार्थ तयार करुन दाखवले. त्यानंतर दुसऱ्या दिवशी जैवशास्त्र प्रशाळेचे प्रा.भूषण चौधरी यांनी हरितक्रांती त्यांचे फायदे व तोटे ह्या विषयावर मार्गदर्शन केले. कार्यशाळेच्या यशस्वी आयोजन होण्यासाठी डॉ.स्वप्नील खरे व प्रतिक महाजन यांनी परिश्रम घेतले.

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

दै.तरुणभारत - 07मार्च, 2019

प्रशिक्षण कार्यशाळेचा नवंगावला समारोप

तभा वृत्तसेवा
जळगाव, ६ मार्च

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ व राष्ट्रीय विज्ञान अकादमी यांच्या संयुक्त विद्यमानाने आयोजित चार दिवसीय प्रशिक्षण कार्यशाळा नंदूरबार जिल्हयातील नवंगाव (शितलपाडा) येथे पार पडली. या कार्यशाळेत अनुसूचित जमातीच्या समुदायातील शेतकऱ्यांना शाश्वत शेती, हरीत ऊर्जा, कंपोस्ट खत निर्मिती व जैवतंत्रज्ञान आधारीत अर्थव्यवस्था या विषयांवर प्रशिक्षण देण्यात आले.

चार दिवसाच्या या प्रशिक्षण कार्यशाळेत वीस शेतकऱ्यांना प्रशिक्षण देण्यात आले. या कार्यशाळेच्या पहिल्या दिवशी प्रशिक्षक म्हणून जैवशास्त्र प्रशाळेचे प्रा.ए.बी.चौधरी यांनी सुक्ष्मजीव यांची ओळख व त्यांना वाढीसाठी लागणारे साहित्य व त्यांचे खाद्यपदार्थ तयार करुन दाखले. त्यानंतर दुसऱ्या दिवशी जैवशास्त्र प्रशाळेचे प्रा.भूषण चौधरी यांनी हरीतक्रांती त्यांचे फायदे व तोटे हया विषयावर मार्गदर्शन केले. तिसऱ्या दिवशी बायफ हया संस्थेचे श्री.गणेश पाटील यांनी बायोगॅस या विषयावर मार्गदर्शन केले. तसेच्या दुपारच्या सत्रामध्यें माती परीक्षण कसे करावे यांचे प्रात्यक्षिक करण्यात आले. शेवटच्या दिवशी जौवशास्त्र प्रशाळेच्या डॉ दंदी यांनी जौवमात्रा प्रवर्तन हया विषयांवर मार्गदर्शन व गांडूळ खत निर्मिती या विषयांवर प्रात्यक्षिक घेतले. तसेच या कार्यशाळेत शेतकऱ्यांना जौविक खतांचा योग्य वापर कसे करावे, त्यांना कसे वाढवावे व त्यांचे फायदे व त्यांच्यामुळे होणारी शेतातील खर्चात बचत या सर्व विषयांवर सखोल मार्गदर्शन करण्यात आले. कार्यशाळेच्या यशस्वी आयोजन होण्यासाठी डॉ.स्वप्नील खरे व प्रतिक महाजन यांनी परिश्रम घेतले.

दै.दिव्यमराठी- 07मार्च, 2019

विद्यापीठातर्फे शाश्वत शेतीवर कार्यशाळा

प्रतिनिधी | जळगाव

कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ व राष्ट्रीय विज्ञान अकादमीतर्फे चार दिवसीय प्रशिक्षण कार्यशाळा नवंगाव (शीतलपाडा, जि. नंदूरबार) येथे झाली. कार्यशाळेत २० शेतकऱ्यांना प्रशिक्षण देण्यात आले. पहिल्या दिवशी प्रा. ए. बी. चौधरी यांनी सूक्ष्मजीव यांची ओळख व त्यांना वाढीसाठी लागणारे साहित्य व त्यांचे खाद्यपदार्थ तयार करुन दाखवले. कार्यशाळेत शेतकऱ्यांना जैविक खतांचा योग्य वापर कसे करावे, त्यांना कसे वाढवावे, त्यांचे फायदे व त्यांच्यामुळे होणारी शेतातील खर्चात बचत या सर्व विषयांवर सखोल मार्गदर्शन करण्यात आले. डॉ.स्वप्नील खरे व प्रतिक महाजन यांनी सहकार्य केले.

दैनिक देशोन्नती - 10मार्च, 2019

राष्ट्रीय विज्ञान अॅकडमीतर्फे चार दिवशीय प्रशिक्षण कार्यशाळा

जळगाव (प्रतिनिधी) : कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ व राष्ट्रीय विज्ञान अकादमी यांच्या संयुक्त विद्यमानाने आयोजित चार दिवसीय प्रशिक्षण कार्यशाळा नंदूरबार जिल्ह्यातील नवंगाव (शितलपाडा) येथे पार पडली. या कार्यशाळेत अनुसूचित जमातीच्या समुदायातील शेतकऱ्यांना शाश्वत शेती, हरीत ऊर्जा, कंपोस्ट खत निर्मिती व जैवतंत्रज्ञान आधारीत अर्थव्यवस्था या विषयांवर प्रशिक्षण देण्यात आले. चार दिवसाच्या या प्रशिक्षण कार्यशाळेत वीस शेतकऱ्यांना प्रशिक्षण देण्यात आले. या कार्यशाळेच्या पहिल्या दिवशी प्रशिक्षक म्हणून जैवशास्त्र प्रशाळेचे प्रा.ए.बी.चौधरी यांनी सुक्ष्मजीव यांची ओळख व त्यांना वाढीसाठी लागणारे साहित्य व त्यांचे खाद्यपदार्थ तयार करुन दाखले. त्यानंतर दुसऱ्या दिवशी जैवशास्त्र प्रशाळेचे प्रा.भूषण चौधरी यांनी हरीतक्रांती त्यांचे फायदे व तोटे हया विषयावर मार्गदर्शन केले. तिसऱ्या दिवशी बायफ हया संस्थेचे गणेश पाटील यांनी बायोगॅस या विषयावर मार्गदर्शन केले. तसेच्या दुपारच्या सत्रामध्यें माती परीक्षण कसे करावे यांचे प्रात्यक्षिक करण्यात आले. शेवटच्या दिवशी जैवशास्त्र प्रशाळेच्या डॉ.नविन दंदी यांनी जैवमात्रा प्रवर्तन हया विषयांवर मार्गदर्शन व गांडूळ खत निर्मिती या विषयांवर प्रात्यक्षिक घेतले. या कार्यशाळेत शेतकऱ्यांना जैविक खतांचा योग्य वापर कसे करावे, त्यांना कसे वाढवावे व त्यांचे फायदे व त्यांच्यामुळे होणारी शेतातील खर्चात बचत या सर्व विषयांवर सखोल मार्गदर्शन करण्यात आले. यशस्वी आयोजन होण्यासाठी डॉ. स्वप्नील खरे, प्रतिक महाजन यांनी परिश्रम घेतले.

9. Impact of the programme on the ST population:

- During the workshop, farmers demonstrated enthusiastic response and amazed to see living microbes in the soil responsible for the fertility of the soil.
- All farmers realized the importance and benefits of microbial bio-fertilizer and soil testing
- Participant were convinced regarding the ill effects of overuse of the chemical fertilizers
- All farmers committed to adopt organic farming practices and avoid the over-use of synthetic chemical fertilizers and pesticides.
- Participants were individually trained to produce microbial bio-fertilizers, biogas, compost and vermicompost during the practical sessions.
- Participants gained confidence to perform soil analysis and interpret the results for effective remedy.
- A knowledgebase of how bacteria are propagated in a laboratory, preparing the cost-effective home-made growth media for the bacterial multiplication and quality control parameters before use.

10. Concerns/constraints (if any)

It was initially difficult to enroll farmers for a 4-day duration workshop and decide with a venue which will facilitate demonstration of biofertilizer facilities. Kind cooperation of BAIF officials was fruitful to conduct the 1st Workshop at the remote location. Besides, a non-recurring grant would have greatly benefited to effectively demonstrate biofertilizer production to the farmers on site.

11. Future plan (if any):

Our plan is to conduct the 2nd Farmer Training Workshop for ST Youth in the month of August or September at another remote location of Molgi village (21°46'05.9"N 74°00'26.2"E), Tal. Shahada, Dist. Nandurbar (Maharashtra)-425452 and provide training to local farmer participants on Biofertilizer production as well as soil testing.

Thereafter, we plan conduct 4 more Workshops at remote location in Nandurbar Dist. in the 2nd Year of Implementation (1st November, 2019 to 31st October, 2020)

2.3.2019
Co-ordinator

Project Co-Ordinator
LAB TO LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

(Dr. Navin D. Dandi)
Coordinator/Project Investigator
Signature with Seal

A

Report on

FARMERS TRAINING

under

LAB TO LAND PROJECT

No. of Participants: 10

Pratap Shashwat Aadhunik Sheti Tattvdhyan Kendra,

Amalner

North Maharashtra University, Jalgaon

04th April -07th April 2019

Day I (04th April 2019)

Inauguration:

President & Patron: **Prof. Bhushan L. Chaudhari**
School of Life Sciences, KBCNMU Jalgaon

Morning Session:

Speaker : **Prof. Bhushan L. Chaudhari**
School of Life Sciences, KBCNMU Jalgaon

Topic: **Global sustainable livelihood with the application of bio-technology in agro aqua farming.**

Afternoon Practical Session:

1. Conduction the practical on soil Analysis of participant farmers.
   Farmers analyzed their own soil using soil testing kit.

2. Isolation, Screening and Characterization of Biofertilizer and Biopesticide species
3. First serial dilution of the soil sample then isolated the microorganism from diluted soil sample using the pour plate technique and keep into the incubator at 37° C for 24hrs.

Day II (05th April 2019)

Morning Session:

Speaker: Dr.Navin N. Dandi
School of Life Sciences
Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon

Topic: **Biofertilizers / Biopesticides Production technology**

Afternoon Practical Session:

Mass Production:

1. Mass Production of *Rhizobium species* for soyabean biofertilizer production.

Day III (06th April 2019)

Morning Session:

Speaker: Mr. Swapnil M. Khare
Scientific Officer / Research Assistant
LAB TO LAND program, NMU Jalgaon

Topic: **Application of bio-technology in agriculture**

Afternoon Practical Session:

1. Conduction the Practical on soil Analysis of participant farmers.
   Farmers analysed their own soil testing kit.
2. Isolation, Screening and Characterization of Biofertilizer and Biopesticide species
3. First serial dilution of the soil samlple then isolated the microorganism from diluted soil sample using the pour technique and keep into incubator at 37.c for 24hrs.

Day IV (07th April 2019)

Speaker: **Prof. Dr. A. B.Chaudhari**
School of Life Sciences
North Maharashtra University, Jalgaon

Topic: **Biofertilizer production and its application**

Afternoon Practical Session:

1. Sterilization of carrier material (charcoal) by autoclaving 4 times
2. Blending of rhizobium broth culture with carrier material (charcoal)
3. Packing and labeling of *Rhizobium* (soyabean) biofertilizer.
4. Seed pelleting/ seed bacterization- Soybean seeds with 5% Sugar solution and treatment with rhizobium broth culture.
5. The total microbial count was found 10^8 cells/gm.

Valedictory function:

President of program: **Prof. V.L.Maheshwari**
Director
School of Life Sciences, NMU Jalgaon

The biofertilizer bags are given to the participants for application in the field and certificate with their soil analysis report given to the farmers.

Hospitality for speakers and Farmers

For Speaker:

Under LAB TO LAND farmers training program we provide the university guest house to speaker for stay and arrange university vehicle from NMU Jalgaon to Pratap Philosophy Centre, Amalner. Beside this arrange good food for them.

For Farmers:

For this program farmers are main target group we arrange the good hospitality for them. Firstly, one member (Mr. Swapnil Khare, Research Assistant/Technician) of our team go to Nawapur before 8 days of schedule program for arranging the participant. After that before one day of program Mr. Sandip Sonawane goes to collect the participant.

Here at Pratap Philosophy Centre, Amalner we arrange good accommodation at centre guest house and good food for them during four days program.

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

Detail of list of participants

Lab to Land Programme अतर्गत

शेतकरी प्रशिक्षणार्थ्यांची प्रशिक्षणार्थीची यादि

प्रशिक्षणाचा कालावधी दि.-४ ,एप्रिल २०१९ ते ०७ एप्रिल २०१९

अ.क्र.	प्रशिक्षणार्थीची नावे	वय (वर्ष)	शिक्षण
१.	परदेशी राजेश	५०	१२वी सायन्स
२.	धनगर अभिमान हरी	४०	१२ वी सायन्स
३.	सोनवणे राहुल दिलीप	३५	१२ वी सायन्स
४.	पाटिल मयुर सतिश	४०	१२ वी
५.	आसद निजाम सैयद	५५	१२ वी
६.	अमोल धनराज पाटिल	४५	१२ वी
७.	मंगलबाई फुलचंद पाटिल	५०	नाही
८.	उषाबाई राजेंद्र पाटिल	४५	१० वी
९.	इंदुबाई पंठरीनाथ पाटिल	४०	३ री
१०.	सुरेखा सुभाष पाटिल	५५	१२ वी

Feedback forms of the participants

अ.क्र.	प्रशिक्षणार्थीची नावे	वय (वर्ष)	शिक्षण	अभिप्राय
१.	परदेशी राजेश	५०	१२वी सायन्स	उपक्रमात जैविक खतांबदल प्रशिक्षण घेतले.खुप चांगले मार्गदर्शन मिळाले
२.	धनगर अभिमान हरी	४०	१२ वी सायन्स	महाराष्ट्रतील जमिनीची पोत खालवत आहे.तो सुधारण्यासाठी जैविक खते वापरली पाहिजे.
३.	सोनवणे राहुल दिलीप	३५	१२ वी सायन्स	प्रशिक्षणात जेविक खताबदल शिकायला मिळाले.
४.	पाटिल मयुर सतिश	४०	१२ वी	तुम्ही चांगले शिक्षण दिले पुढे सेंद्रिय खत वापरण्यास सुरवात करु
५.	आसद निजाम सैयद	५५	१२ वी	प्रशिक्षणात येऊन चांगले वाटले
६.	अमोल धनराज पाटिल	४५	१२ वी	चांगले प्रशिक्षण दिले
७.	मंगलबाई फुलचंद पाटिल	५०	नाही	तुम्ही चांगले शिक्षण दिले पुढे सेंद्रिय खत वापरण्यास सुरवात करु.
८.	उषाबाई राजेंद्र पाटिल	४५	१० वी	आम्हाला या वयात खुप शिकायला भेटले आज पर्यत कुठेही अशी माहिती मिळाली नाही आंनद वाटला
९.	इंदुबाई पंठरीनाथ पाटिल	४०	३ री	चांगले शिकायला मिळाले नाही. सेंद्रिय खत वापरायचेच आहे.
१०.	सुरेखा सुभाष पाटिल	५५	१२ वी	आम्हाला प्रशिक्षण चांगले दिले पुढे सेंद्रिय खत वापरण्यास सुरवात करु

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

A

Report on

FARMERS TRAINING

Under

LAB TO LAND PROGRAMME

Participants : 55

Pratap Shashwat Aadhunik Sheti Tattvdhyan Kendra, Amalner

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

06 June -07 June 2019

Day I (6th June 2019)

Inauguration:

Patron: **Hon'ble Prof.P.P.Patil**

Vice Chancellor North Maharashtra University Jalgaon – 425001

Special Guest: **Hon'ble Prof. Sudhir U. Meshram**

Vice Chancellor, Raisoni University, M.P.

President: **Dr. S.R.Chaudhari**

Hon.Director, Pratap Philosophy Center, Amalner

Chief Guest: **Prof.Sudhir Patil,** Chief Executive, Pratap Philosophy Center,Amalner

Dr. Bhushan L. Chaudhari, Coordinator, Lab To Land Program,

School of Life Sciences,KBCNMU, Jalgaon.

Dr. A.B.Chaudhari, HOD Microbiology Dept. S.L.S.,KBCNMU, Jalgaon

Prof.J.S.Rane, Principle, Pratap College, Amalner.

Prof.D.D.Patil, Advisory Committee Member, PPC, Amalner.

Prof.Dr.Dhiraj R.Vaishnav , Advisory Committee Member, PPC, Amalner.

Mr.Dinesh Naik, Advisory Committee Member, PPC, Amalner.

Morning Session:

Speaker: **Hon'ble Prof. Sudhir U. Meshram**

Vice Chancellor, Raisoni University, M.P.

During this session **Hon'ble Prof. Sudhir U. Meshram,** Vice Chancellor, Raisoni University, M.P., distributed of GBA Award amongst selective distressed farmers of Jalgaon, Dhule & Nandurbar District.

Afternoon Session:

Speaker: **Dr. Bhushan L. Chaudhari**

School of Life Sciences, KBCNMU, Jalgaon,

Topic: **Agro-Practices for sustainable development**

Speaker: **Dr. A.B.Chaudhari**

School of Life Sciences, KBCNMU, Jalgaon,

Topic: **Biofertilizer : Production & Its Uses.**

Day II 7th June 2019

Morning Session:

Speaker: **Dr.Swapnil M.Khare**
Scientific officer
LAB TO LAND program, KBCNMU Jalgaon

Topic: **Soil Health, Natural Farming & Smart Farming.**

Afternoon Practical Session:

Speaker: **Mr. Navin N.Dandi**
Assistant Professor, School of Life Sciences, NMU, Jalgaon

Topic: **Biofertilizer: production and application**

Valedictory function:

President of program: Dr. S.R.Chaudhari

Hon.Director, Pratap Philosophy Center, Amalner

Chief Guest: **Mr. Navin N.Dandi**
Assistant Professor, School of Life Sciences, NMU, Jalgaon

Prof.D.D.Patil, Advisory Committee Member, PPC, Amalner.

Prof.Dr.Dhiraj R.Vaishnav , Advisory Committee Member, PPC, Amalner.

Mr.Dinesh Naik, Advisory Committee Member, PPC, Amalner.

The certificates are given to the farmers.

Hospitality for speakers and Farmers

For Speaker:

Under LAB TO LAND farmers training program at Pratap Philosophy Centre, Amalner. we arrange good food for them.

For Farmers:

For this program farmers are main target group we arrange the good hospitality for them. Firstly, Dr.Swapnil M. Khare, is visit to nearby villages before 8 days of schedule program for arranging the participant.

Here at Pratap Philosophy Centre, Amalner we arrange good food for them during two days program.

Dr. Swapnil M.Khare
Scientific Officer
LAB TO LAND

Dr. S.R.Chaudhari
Hon.Director, Pratap Philosophy
Center, Amalner

Dr. Bhushan L.Chaudhari
Coordinator
LAB TO LAND

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

A

Report on

FARMERS TRAINING

under

LAB TO LAND PROJECT

No. of Participants: 10

Pratap Shashwat Aadhunik Sheti Tattvdhyan Kendra,

Amalner

North Maharashtra University, Jalgaon

26th August- 29th August 2019

Day I (26th August 2019)

Inauguration:

President & Patron: Dr.Navin N. Dandi
School of Life Sciences, KBCNMU Jalgaon

Morning Session:

Speaker: Dr.Navin N. Dandi
School of Life Sciences, KBCNMU Jalgaon

Topic: **Global sustainable livelihood with the application of bio-technology in agro aqua farming.**

Afternoon Practical Session:

1. Conduction the practical on soil Analysis of participant farmers.
   Farmers analyzed their own soil using soil testing kit.

2. Isolation, Screening and Characterization of Biofertilizer and Biopesticide species
3. First serial dilution of the soil sample then isolated the microorganism from diluted soil sample using the pour plate technique and keep into the incubator at 37° C for 24hrs.

Day II (27th August 2019)

Morning Session:

Speaker: Prof.B.L.Chaudhari
School of Life Sciences
Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon

Topic: **Biofertilizers / Biopesticides Production technology**

Afternoon Practical Session:

Mass Production:

1. Mass Production of *Rhizobium species* for soyabean biofertilizer production.

Day III (28th August 2019)

Morning Session:

Speaker: Mr. Swapnil M. Khare
Scientific Officer / Research Assistant
LAB TO LAND program, NMU Jalgaon

Topic: **Application of bio-technology in agriculture**

Afternoon Practical Session:

1. Conduction the Practical on soil Analysis of participant farmers.
   Farmers analysed their own soil testing kit.
2. Isolation, Screening and Characterization of Biofertilizer and Biopesticide species
3. First serial dilution of the soil samlple then isolated the microorganism from diluted soil sample using the pour technique and keep into incubator at 37.c for 24hrs.

Day IV (29th August 2019)

Speaker: **Prof. Dr. A. B.Chaudhari**
School of Life Sciences
North Maharashtra University, Jalgaon

Topic: **Biofertilizer production and its application**

Afternoon Practical Session:

1. Sterilization of carrier material (charcoal) by autoclaving 4 times
2. Blending of rhizobium broth culture with carrier material (charcoal)
3. Packing and labeling of *Rhizobium* (soyabean) biofertilizer.
4. Seed pelleting/ seed bacterization- Soybean seeds with 5% Sugar solution and treatment with rhizobium broth culture.
5. The total microbial count was found 10^8 cells/gm.

Valedictory function:

President of program: **Prof. V.L.Maheshwari**
Director
School of Life Sciences, NMU Jalgaon

The biofertilizer bags are given to the participants for application in the field and certificate with their soil analysis report given to the farmers.

Hospitality for speakers and Farmers

For Speaker:

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For Farmers:

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Here at Pratap Philosophy Centre, Amalner we arrange good accommodation at centre guest house and good food for them during four days program.

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

Detail of list of participants

Lab to Land Programme अतर्गत

महिला प्रशिक्षणार्थ्यांची प्रशिक्षणार्थीची यादि

प्रशिक्षणाचा कालावधी दि.-२६ ऑगस्ट २०१९ ते २९ ऑगस्ट २०१९

अ.क्र.	प्रशिक्षणार्थीची नावे	वय (वर्ष)	शिक्षण
१.	उषाबाई संतोष पाटील	२०	नाही
२.	मंजाबाई नाना पाटील	४०	७ वी
३.	अरुणा सतीलाल पाटील	४५	नाही
४.	अंजनाबाई दत्तु पाटील	३०	नाही
५.	मंगलाबाई जानकीराम पाटील	५०	नाही
६.	लताबाई मगन पाटील	५०	४ वि
७.	रजुबाई दिनेश पाटील	२८	१२ वी
८.	कल्पनाबाई ज्ञानेश्वर पाटील	३०	१० वी
९.	विमलबाई मोहन पाटील	३२	७ वी
१०.	संगिताबाई संतोष पाटील	४०	नाही

Feedback forms of the participants

अ.क्र.	प्रशिक्षणार्थीची नावे	वय (वर्ष)	शिक्षण	अभिप्राय
१.	उषाबाई संतोष पाटील	२०	नाही	उपक्रमात जैविक खतांबदल प्रशिक्षण घेतले.खुप चांगले मार्गदर्शन मिळाले
२.	मंजाबाई नाना पाटील	४०	७ वी	महाराष्ट्रतील जमिनीची पोत खालवत आहे.तो सुधारण्यासाठी जैविक खते वापरली पाहिजे.
३.	अरुणा सतीलाल पाटील	४५	नाही	प्रशिक्षणात जेविक खताबदल शिकायला मिळाले.
४.	अंजनाबाई दत्तु पाटील	३०	नाही	तुम्ही चांगले शिक्षण दिले पुढे सेंद्रिय खत वापरण्यास सुरवात करु
५.	मंगलाबाई जानकीराम पाटील	५०	नाही	प्रशिक्षणात येऊन चांगले वाटले
६.	लताबाई मगन पाटील	५०	४ वि	चांगले प्रशिक्षण दिले
७.	रजुबाई दिनेश पाटील	२८	१२ वी	तुम्ही चांगले शिक्षण दिले पुढे सेंद्रिय खत वापरण्यास सुरवात करु.
८.	कल्पनाबाई ज्ञानेश्वर पाटील	३०	१० वी	आम्हाला या वयात खुप शिकायला भेटले आज पर्यत कुठेही अशी माहिती मिळाली नाही आंनद वाटला
९.	विमलबाई मोहन पाटील	३२	७ वी	चांगले शिकायला मिळाले नाही. सेंद्रिय खत वापरायचेच आहे.
१०.	संगिताबाई संतोष पाटील	४०	नाही	आम्हाला प्रशिक्षण चांगले दिले पुढे सेंद्रिय खत वापरण्यास सुरवात करु

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

A

Report on

FARMERS TRAINING

Under

LAB TO LAND PROJECT

NO. of Participants Farmer :-45

Lab- TO – Land Project Workshop

Location of the Workshop- Kharchi Tal-Erandol Dist-Jalgaon

Discuses the agriculture Issues & Challenges of farmer & University Team

North Maharashtra University, Jalgaon

21th October 2019

Report on-12

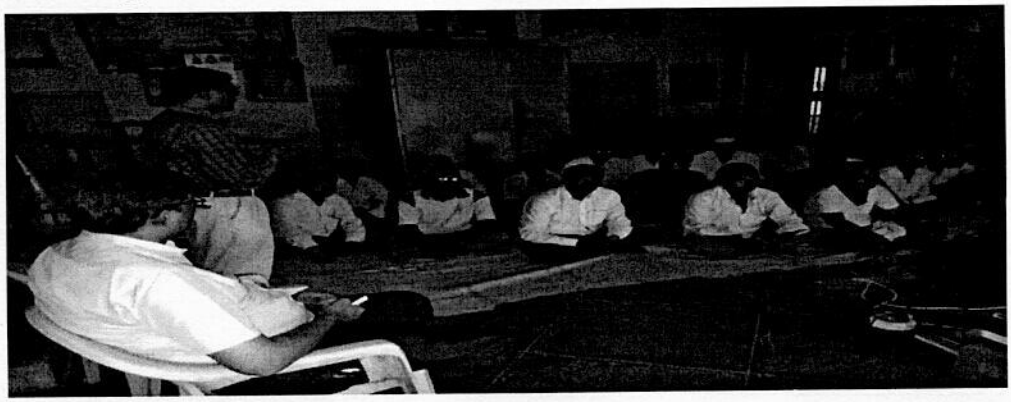
Lab-To-Land Project

This initiative has been undertaken to suggest solutions to agricultural problems as well as to understand the various effects of sustainable agriculture on the adverse effects of chemical fertilizers as well as the differences between different production and yield processes on agriculture. On behalf of Kavayitri Bahinabai Chaudhari North Maharashtra University, Department of Social Work and Lab to Land, a one-day workshop was organized for the farmers in Village Kharchi. Tal – Erandol, District- Jalgaon.

- Title of the Workshop/Filed Visit –Identify the Farmer need and Problems
  (Adopted Villages of University & Dept. of Social Work)
  - ➢ Date of the Workshop – 21 /10/2019
- No. of Participant Farmers & Villagers – 45 Farmer
  - ➢ Location of the Workshop – Village -Kharchi Tal- Erandol, Dist-Jalgoan.
- Speaker of the Session: - Dr. Bhushan L. Chaudhari

Objective of the Workshop –

1. To help the marginalized rural backward families (SC, ST) in rural areas to actively participate in sustainable agriculture activities.
2. To make rural farmers understand the health of agriculture,
3. To inform the farmers about the activities related to sustainable agriculture
4. To inform the farmers about the adverse effects of chemical fertilizers and Providing information on fertilizer and water use.



Discuss the agriculture issues & challenges farmers and University team.

HEAD
Deptt. of Social Work (M.S.W)
School of Social Sciences,
Kavayitri Bahinabai Chaudhari
North Maharashtra University
JALGAON - 425001

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

28

'A' Grade
NAAC Re-accredited
(3rd Cycle)

Programme in support of KBCNMU's

Lab-To-land

Programme

Community-based training to Scheduled Tribe Youths on Biomass Conversion and Utilization for Sustainable Agriculture, Green Energy and Biotechonomy

2nd Progress Report

राष्ट्रीय विज्ञान अकादमी, भारत
प्रायोजित
[NAS/414/10/18-19 dated 17/10/2018]

20.11.2019 - 23.11.19

==========

जैवशास्त्र प्रशाळा
कवयित्री बहिणाबाई चौधरी उत्तर महाराष्ट्र विद्यापीठ
जळगाव-425001 (महाराष्ट्र)

Table of Contents

Project Report for Science & Technology intervention in various activities for the welfare of scheduled tribes under 'NASI-ST Sub Plan'

1. Title of the Project:

Community-based training to Scheduled Tribe Youths on Biomass Conversion and Utilization for Sustainable Agriculture, Green Energy and Biotechonomy

2. Name of the Principal Investigator:

Dr. Navin D. Dandi (Assistant Professor)
School of Life Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University (KBCNMU), Jalgaon – 425001 (MS)

3. Objective(s):

Conventional farming methods relied upon indiscriminate applications of chemical fertilizers and excess irrigation. This has resulted in almost non-application of organic carbon and has reduced beneficial soil microflora ultimately leading to salinity and infertility of soil with poor soil formation. These conditions need to be replaced by application of biofertilizers with the synergy of other organic inputs.

Hence, the following objectives were proposed:

Short-term Objectives:

- set-up a demonstration-scale biofertilizer production facility at University Satellite Centre at Nandurbar, a region with one of the highest number of ST population (69.28%) in North Maharashtra
- produce and promote the use of liquid biofertilizers, compost, vermicompost, biopesticides, biogas etc. and convince its role in increasing the fertility of agricultural soil through awareness programmes under the supervision of trained staff and visiting faculty
- facilitate hand-on training on the aspects of production and quality control to young farmers and labourers of ST community in lean agricultural seasons at Nandurbar region

- select a group of young and enthusiastic ST community candidates interested to set-up their own production facility in a phase-wise manner
- keep the trained candidates appraised of advances in Science & Technology and act as a nodal point for production and distribution of biofertilizers to other farmers in the region

In long-term, the endeavour aims to facilitate and

Long-term Objectives:

- provide region-specific and time-tested biofertilizers to the farmers
- organize field trials on small scale basis for demonstration of biofertilizer efficacy on different crops; and
- promote biofertilizer use in an effective manner, training to farmers and ST population, both men and women on various aspects of biofertilizer storage, handling and application for optimal efficacy
- create self-employment opportunity among the ST community and bring out social and financial upliftment

4. Time Duration (in years): 2 Years (1st Nov-2018 to 31st Oct-2020)

5. Sanctioned amount (with FY):

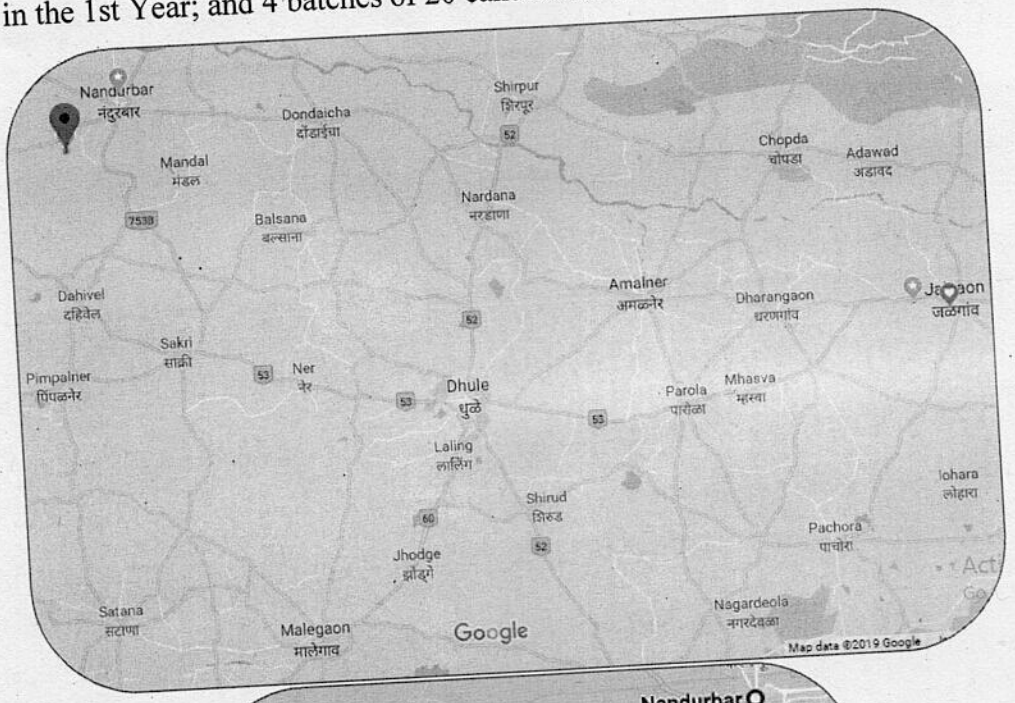
Particulars	Duration	Amount Received	Remarks
Financial Year 2018-2019			
First Instalment released at the time of sanction	1st November, 2018 to 31st March, 2019	₹12,50,000/- (for 3 projects)	₹4,08,800/- (allocated for current project)
Financial Year 2019-2020			
Balance carry forwarded	1st April, 2019 to 31st March, 2020	Nil (Balance carry forwarded)	₹2,97,854/- (carry forwarded)
2nd Instalment	1st April, 2020 to 31st October, 2020	Nil (Balance carry forwarded)	--

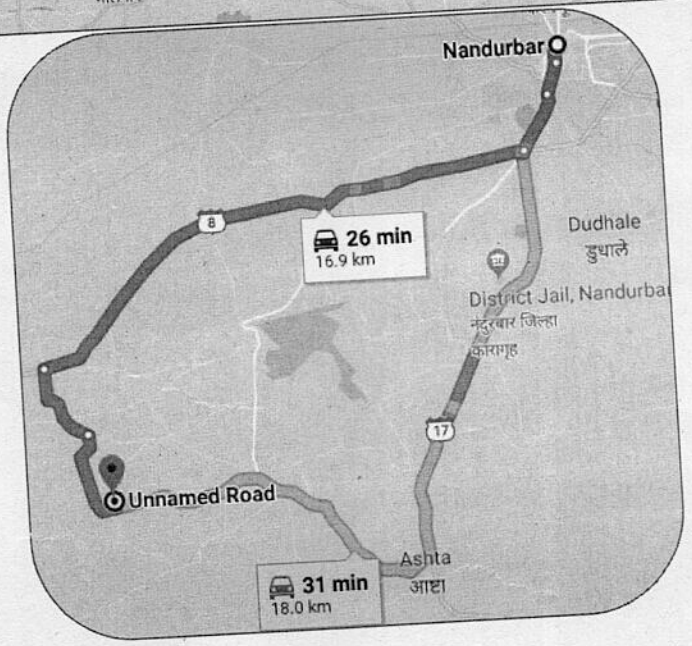
6. Current financial status:

During the first FY (1st November, 2019 to 31st March, 2019), a sum of ₹1,15,784/- (₹ One Lakh Fifteen Thousand Seven Hundred and Eighty Four Only) was utilized and ₹ 2,97,854/- (₹ Two Lakhs ninety-seven thousand eight hundred and fifty four Only) was carry forwarded. In the 2nd financial year, the total expenditure was ₹1,84,509/- (₹ One lakh eighty-four thousand five hundred and nine only) with unspent amount of Rs. 1,17,313/- (₹ One lakh seventeen thousand three hundred and thirteen) carry forwarded to next Financial Year 2020-21.

7. **Implementing area/region (with map):**

Based on the proposed objectives, a total of 6 training workshops are planned during a span of 2 years i.e. from 1st November 2018 to 31st October, 2020 (2 batches of 20 ST candidates each in the 1st Year; and 4 batches of 20 candidates in the 2nd Year of implementation).





8. **Report of the activities held so far with photographs:**

Considering lean agricultural season and a preliminary survey, we have conducted the 2nd Training Workshop at a farmland near Navagaon (Balamrai) village, Dist. Nandurbar (M.S.) (Lat. Lon.: 21°17'41.7'N. 74°9'07.3"E). The venue was located about 180 Km from the University and 17 Km from Nandurbar city in an agricultural field near the village. The workshop was organized for a duration of 4 days (20 November, 2019 to 23 November, 2019)

The venue was selected based on the organic agriculture practice adopted by the field owner and various small-scale organic farming production set-up facilitated by BAIF viz. biogas, composting, vermicomposting, low-cost carrier-based phosphate solubilizing biofertilizer production unit, etc. A group of 20 farmers were registered for the workshop from 5 nearby villages: *Bal Amrai* (7 farmers), *Kalamba* (2 farmers), *Songirpada* (2 farmers), *Dhekwad* (2 farmers), *Ozarde* (3 farmers) and *Jalkhe* (4 farmers).

The farmers were registered and provided with a welcome kit bearing organic fertilizer information booklet printed in *Marathi*. Throughout the workshop, Marathi language was used, and translated to local language whenever required. The workshop was inaugurated by Prof. A. B. Chaudhari (Co-PI; Professor, Dept of Microbiology; and Dean Science and Technology, K.B.C.N.M.University, Jalgaon) on 20th November, 2019. On the dais, were the BAIF officials- Mr. N. R. Chaudhari and Mr. Ganesh Patil.

The programme was initiated by floral welcome of the dignitaries on the dais as well as each of the registered participants. Then, preface of the NASI sponsored project, the workshop and University was presented by Dr. Navin D. Dandi (PI, NASI Project). The program was inaugurated by traditional lamp lightening by the dignitaries. Then, Prof. A. B. Chaudhari, Co-PI and Head, Dept. of Microbiology, School of Life Sciences of KBCNMU, Jalgaon. highlighted the importance of plant-microbe interaction and organic farming practices. The inaugural session was concluded with a group photograph of the participants with the dignitaries.

The inaugural ceremony was followed by the Lead Lecture by Prof. A. B. Chaudhari and highlighted on the composition of soil, types of microbes found in soil, water and air and their ecological importance for successful agriculture. He also pointed out the ill effects of overuse of chemical fertilizer and the deterioration of soil quality over the past 3 decades. In the post-lunch practical session, the participants were introduced to the laboratory glassware, chemicals, autoclave, culture media, typical microbiology laboratory setup and certain alternatives. Participants performed sample collection from root nodules, prepared suspensions and stained the nitrogen fixing bacteria for observation under a microscope. Participants were fascinated to see live bacteria under hanging drop slide preparations. Participants were taught to prepare cost-effective culture medium from jaggery and flour for multiplication of such microbes. The media was sterilized and inoculated by the participants to conclude for the day.

On the second day, Mr. Pratik Mahajan (Research Fellow and CSIR NET) and Mr. Prasad Jape (NASI Project Fellow) conducted soil sample analysis using Hi-media kit. Soil samples were collected from nearest farmlands following the randomized composite sampling method. Participants were divided into 5 groups and each group was guided regarding standard sampling practice and care using V shape method. Further farmers were guided for 5 parameter soil testing

comprising total organic carbon, pH, potassium, phosphate and nitrogen content. In the post-lunch practical session, Mr. Ganesh Patil, Field Officer, BAIF, Nandurbar conducted theory and practical session on various aspects of biogas plant as well as production of Bioprom, a low cost carrier-based P solubilizing biofertilizer.

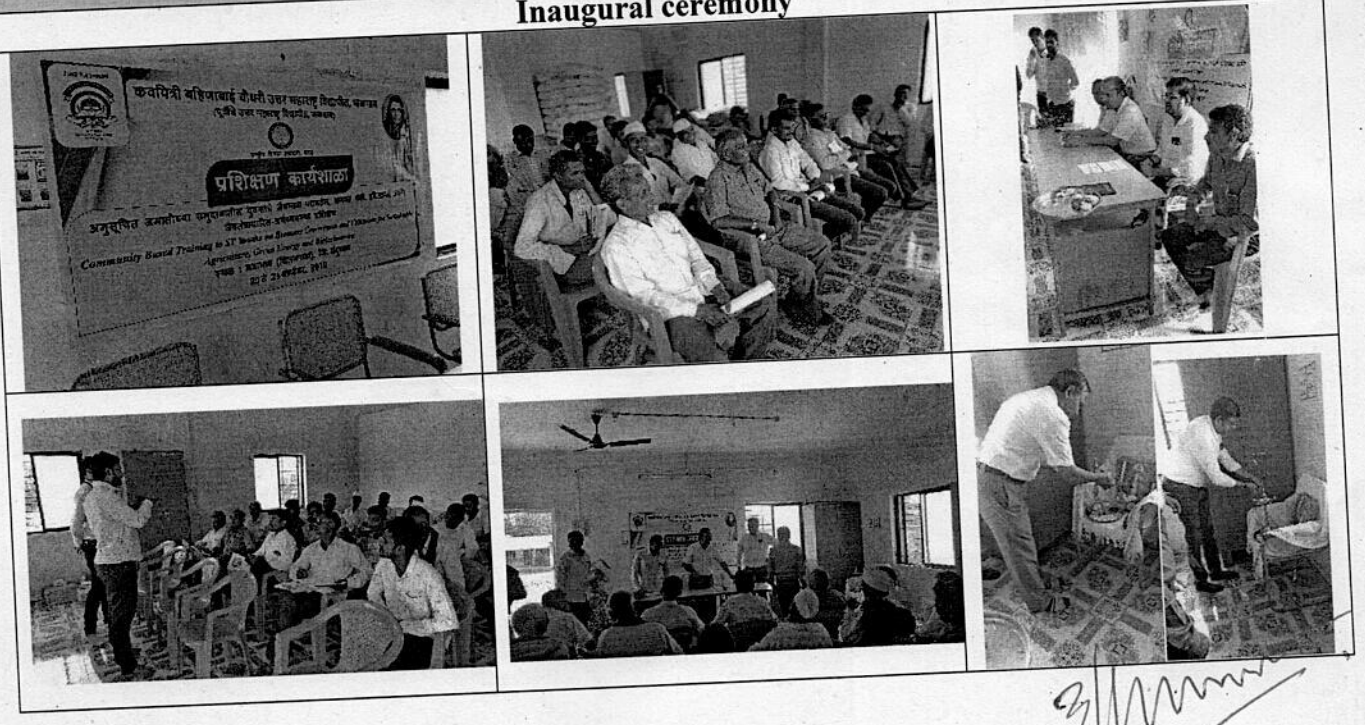
On third day, Prof. Dr. B. L. Chaudhari (Co-PI), School of Life Sciences of the University visited the venue and conducted theory and practical sessions on the aspects of Green Revolution and low-cost bioreactor construction, respectively. In the oral session, he emphasized on the need of hour to adopt organic farming practices and economic benefits in the long run. In post-lunch practical session, the participants were introduced to the microbial bioreactor and know-how of cost- effective home-made bioreactor construction using a plastic tank with modifications for agitation and finally, quality control of biofertilizers.

On the final day of the workshop, Dr. Navin D. Dandi (PI), School of Life Sciences of the University conducted theory session on concept of Biomass Conversion comprising of biomass types, specialized biomass crops and conversion of agricultural residue biomass to starch, compost and vermicompost. In post-lunch practical session, the participants were introduced to know-how of vermicomposting. Finally, post-practical session, farmers were asked to share their experience followed by certificate and stipend distribution, In the concluding session, Dr. Navin D. Dandi (PI, NASI) and Mr. Ganesh Patil (BAIF) expressed vote of thanks.

GLIMPSES OF THE WORKSHOP

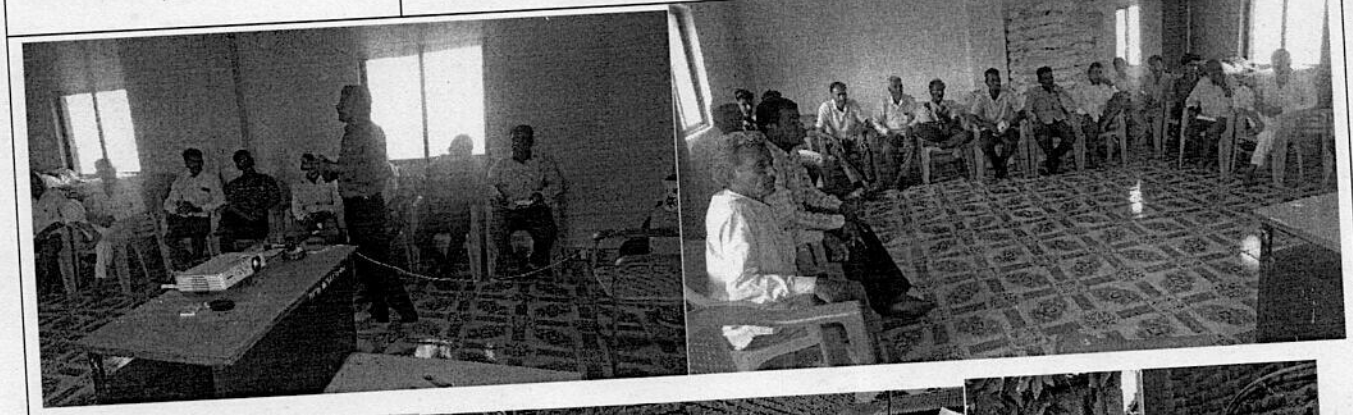
The workshop organized at the venue Balamrai, Dist. Nandurbar during 20th November, 2019 to 23rd November, 2019

Inaugural ceremony

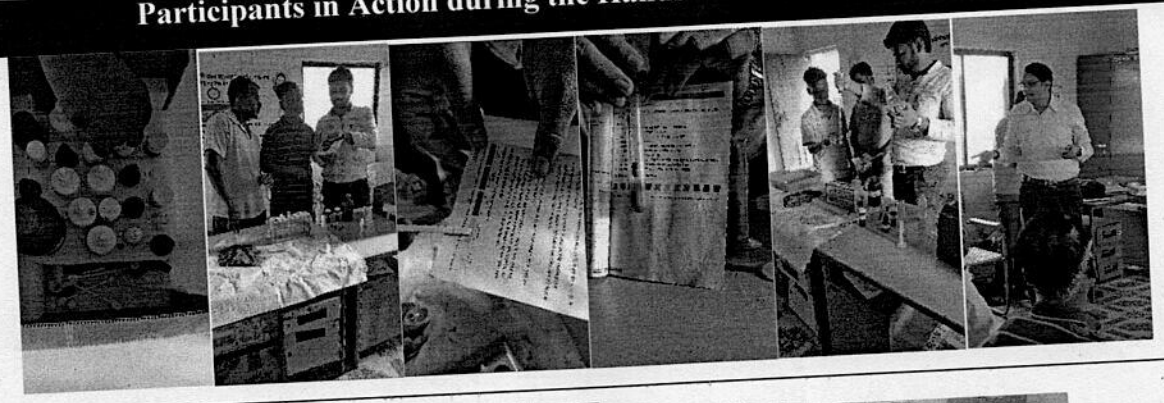


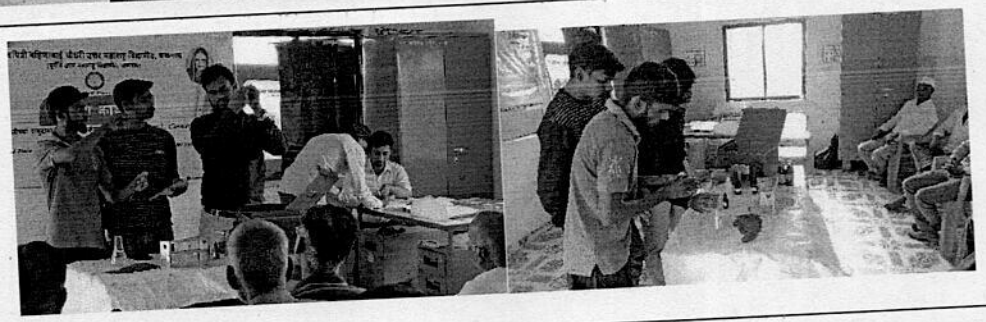
Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,

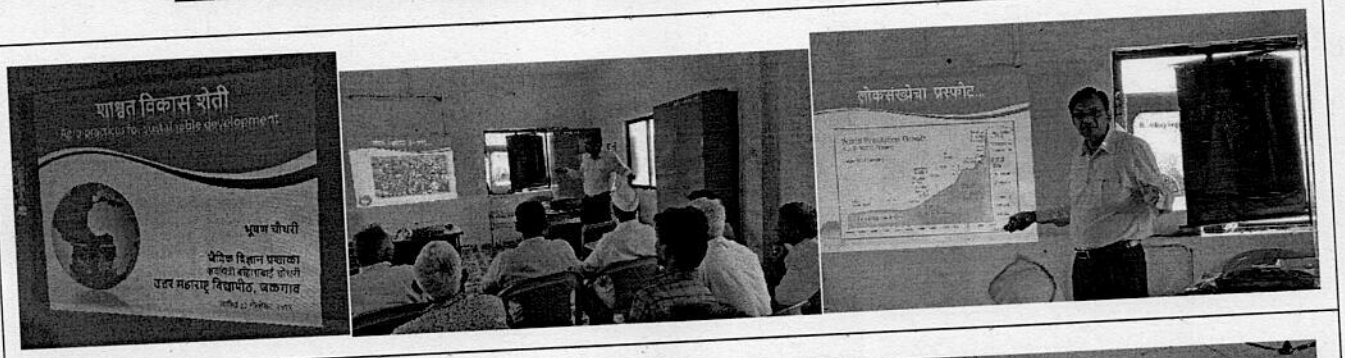
Participants in Action during the Hands-on Workshop Sessions



Participants in Action during the Hands-on Workshop Sessions







9. **Impact of the programme on the ST population:**

- During the workshop, farmers demonstrated enthusiastic response and amazed to see living microbes in the soil responsible for the fertility of the soil.

Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

- All farmers realized the importance and benefits of microbial bio-fertilizer and soil testing
- Participant were convinced regarding the ill effects of overuse of the chemical fertilizers
- All farmers committed to adopt organic farming practices and avoid the over-use of synthetic chemical fertilizers and pesticides.
- Participants were individually trained to produce microbial bio-fertilizers, biogas, compost and vermicompost during the practical sessions.
- Participants gained confidence to perform soil analysis and interpret the results for effective remedy.
- A knowledgebase of how bacteria are propagated in a laboratory, preparing the cost-effective home-made growth media for the bacterial multiplication and quality control parameters before use.

10. Concerns/constraints (if any)

It was initially difficult to enroll farmers for a 4-day duration workshop and decide with a venue which will facilitate demonstration of biofertilizer facilities. Kind cooperation of BAIF officials was fruitful to conduct the 1st as well as the 2nd Workshop at the remote location. Besides, a non-recurring grant would have greatly benefited to effectively demonstrate biofertilizer production to the farmers on site.

In the year 2020, it was planned to conduct 6 more workshops at different locations in the Nandurbar Dist. Due to COVID-19 pandemic lockdown, restrictions on movement and gatherings were imposed from month of March and hence, the planned workshops could not be conducted.

11. Future plan (if any):

We shall be grateful if an extension of at least 9 months starting from the revocation of pandemic lockdown is granted, so that we shall be able to engage the workshops and complete the proposed objectives.

(Dr. Navin D. Dandi)
Coordinator/Project Investigator
Signature with Seal

23.11.2019
Co-ordinator
Lab-To-Land.

Project Co-ordinator
LAB-TO-LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

National Academy of Sciences, India
UTILIZATION CERTIFICATE (*2 copies*)
FOR THE FINANCIAL YEAR 2019-20 (ENDING 31ST MARCH)
(1st April, 2019 to 31st March, 2020)

1.	Title of the Project/ Scheme:	**Community Based training to ST youth on Biomass Conversion and Utilization for Sustainable Agriculture, Green Energy and biotechonomy**	
2.	Name of the Institution:	**School of Life Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon- 425001 (MS)**	
3.	Principal Investigator:	**Dr. Navin Dharmaji Dandi**	
4.	National Academy of Sciences, India letter No. & date sanctioning the project:	**NAS/414/10/18-19 dated 17/10/2018**	
5.	Head of account as given in the original sanction letter:	**Recurring Expenses**	
6.	Amount brought forward from the previous financial year quoting NASI letter no. and date in authority to carry forward the said amount was given	i. Amount	**Rs. 2,97,854/-**
		ii. Letter No.	**NAS/414/10/18-19**
		iii. Date:	**17/10/2018**
7.	Amount received during the financial year (Please give No. & date of NASI sanction letter for the amount)	i. Amount	Rs. Nil
		ii. Letter No.	**Not applicable**
		iii. Date:	**Not applicable**
8.	Total amount that was available for expenditure (excluding commitments) during the financial year (S.No. 6+7)	**Rs. 2,97,854/-** **(1st Installment for duration 1st November, 2018 to 30th Oct, 2019 carry forwarded)**	
9.	Actual expenditure (excluding commitments) incurred during the financial year (Upto 31st March, 2020)	**Rs. 1,84,509/-** **(Rs. One lakh eighty four thousand five hundred and nine only)**	
10.	Balance amount available at the end of the financial year (Until 31st March, 2020)	**Rs. 1,13,345/- + Rs. 3,968/- (interest) = Rs. 1,17,313/-** **(Rs. One lakh seventeen thousand three hundred and thirteen)**	
11.	Unspent balance refunded if any (Please give details of cheque, Demand draft No. etc.)	Rs. Not Applicable	
12.	Amount to be carried forward to the next financial year (if applicable)	**Rs. 1,17,313/-** **(Rs. One lakh seventeen thousand three hundred and thirteen)**	

UTILIZATION CERTIFICATE

Certified that out of **Rs. 4,08,800/- (Four Lakhs Eight Thousand Eight Hundred Only)** of grants-in-aid sanctioned during the **Financial Year 2018-2019** in favor of **Dr. Navin D. Dandi** under the National Academy of Sciences, India Letter No. **NAS/414/10/18-19 dated 17-10-2018** and **Rs. 2,97,854/-** (Rs. Two lakhs ninety-seven thousand eight hundred and fifty-four only) on account of unspent balance of previous year, a sum of **Rs. 1,84,509/- (Rs. One lakh eighty-four thousand five hundred and nine only)** has been utilized for which it was sanctioned and that the balance of **Rs. 1,17,313/- (Rs. One lakh seventeen thousand three hundred and thirteen)** remaining unutilized at the end of the year ~~has been surrendered to Government (vide Demand Draft No NIL dated NIL drawn on NIL)~~/ will be adjusted toward the grants-in-aid payable during the next **Financial Year i.e. 2020-2021**.

(Dr. Navin D. Dandi)
Signature of Principal Investigator
Date

Signature of **Finance and Accounts Officer**
with date
O/C
Asso 10/2/2021

Signature of Registrar /Head of the Institute
with date 8/2/2021
REGISTRAR
Kavayitri Bahinabai Chaudhari
North Maharashtra University
Jalgaon

(TO BE FILLED IN BY NASI)

2. Certified that I have satisfied myself that the conditions on which the grants-in-aid was sanctioned have been fulfilled/ are being fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned: -

Kinds of checks exercised.

1.
2.
3.
4.

Signature Designation Date

REQUEST FOR ANNUAL INSTALMENT WITH UP-TO- DATE STATEMENT OF EXPENDITURE
(Year Means Financial Year i.e. 1st April to 31st March of next year)

1. Sanction Letter No: **NAS/414/10/18-19 dated 17/10/2018**	6. Grant Received in each year:
2. Total Project Cost: **Rs. 8,34,400/-**	a. 1st year **Rs. 4,08,800/-**
3. Sanctioned/ ~~Revised~~ project cost (If applicable) **Rs. 4,08,800/-**	b. 2nd year Rs. ***Not Received*** c. 3rd year Rs. ***Not Received***
4. Date of Commencement of Project: **1st November, 2018**	d. Interest, Rs. 4838 [1st year (Nov, 2018 to 31st March 2019)] + Rs. 3,968 [1st year contd. (1st April, 2019 to 31st March 2020)] ** Total = Rs. 8,806/- (Rs. Eight thousand eight hundred and six only)
5. Statement of Expenditure	e. Total **Rs. 4,08,800/-**

EXPENDITURE INCURRED

SR. NO.	HEADS OF EXPENDITURE AS PER SANCTION ORDER	AMOUNT ALLOCATED/ SANCTIONED *(for Project duration i.e. 2 years)*	1st YEAR FROM DATE OF START (1st Nov., 2018) TO 31st MARCH, 2019	2nd YEAR FROM APRIL 01, 2019 TO MARCH 31, 2020	3rd YEAR FROM APRIL 01, 2020 TO October 31, 2020*	TOTAL EXPEN-DITURE
(i)	(ii)	(iii)	(iv)	(v)	(v)	(vii)
(a)	**Honorarium i. Project Fellow @14000/- (consolidated)**	3,36,000	39,290	1,34,400	Not Applicable	
	ii. Organization of training Workshop	3,12,440	32,193	40,045	Not Applicable	
(b)	**Consumables** (Chemicals,Glassware,etc.)	80,000	Nil	Nil	Not Applicable	
(c)	**Field Work, travel & extension activities**	40,000	Nil	10,064	Not Applicable	
(d)	**Contingency**	66,000	44,301	Nil	Not Applicable	
	Total	**8,34,440**	**1,15,784**	**1,84,509**	Not Applicable	

*or till date of completion **Interest entry passed 1/4/2020
Funds released so far: Rs. 4,08,800/- (out of sanctioned Rs. 8,34,400/-)
Date of start of project: 1st November, 2018
Date of Completion: 30th October, 2020 (extension requested due to coronavirus pandemic)
Grants yet to be received Rs. 4,25,600/-

(Dr. Navin D. Dandi)
Signature of PI

Signature of Finance & Accounts Officer

(Registrar)
Signature and Seal of Head of Organization
REGISTRAR
Kavayitri Bahinabai Chaudhari North Maharashtra University Jalgaon

Signature & Seal of **Chartered Accountant**

Note:
1. Expenditure under the sanctioned heads, at any point of time, should not exceed funds allocated under that head, without prior approval of NASI i.e. Figures in Column (vii) should not exceed corresponding figures in Column (iii)
2. Utilisation Certificate for each financial year ending 31st March has to be enclosed, along with request for carry-forward permission to next year.

A

Report on

FARMERS TRAINING

Under

LAB TO LAND PROJECT

NO. of Participants Farmer :-65

Lab- TO – Land Project Workshop

Location of the Workshop- Musali Tal- Dharngaon Dist-Jalgaon

Discuses the agriculture Issues & Challenges of farmer & University Team

North Maharashtra University, Jalgaon

21th January 2020

Report on-10

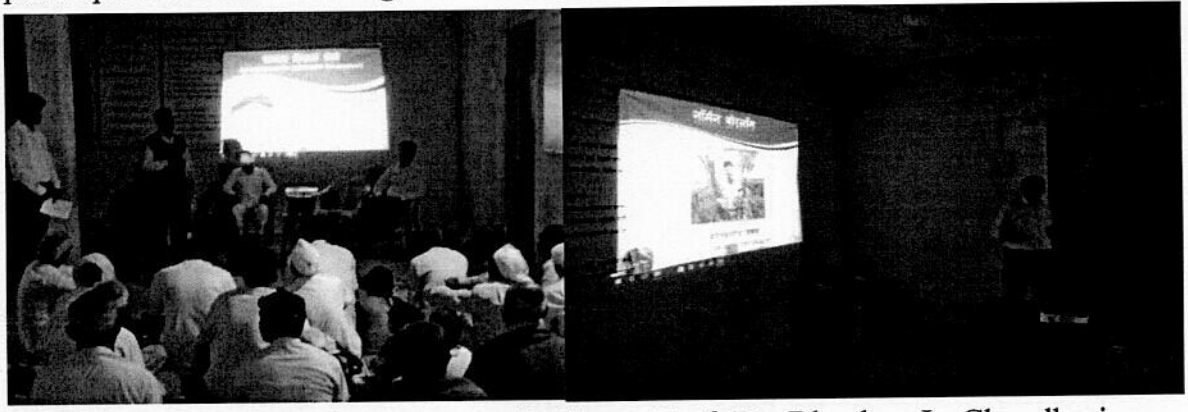
Lab-To-Land Project

The program has been organized with a view to make the rural people aware of the importance of sustainable agriculture to introduce the sustainable agricultural practices in backward remote farmers from village of Kavayitri Bahinabai Chaudhari North Maharashtra University region in districts of Nandurbar, Dhule and Jalgaon.

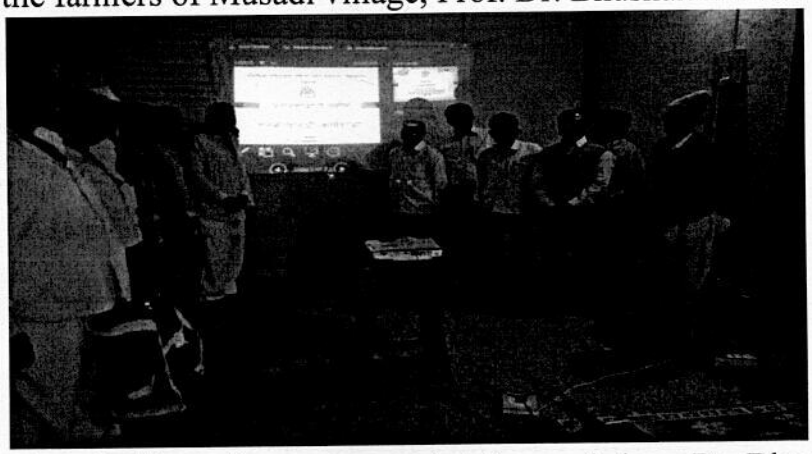
- Title of the Workshop/Filed Visit –Identify the Farmer need and Problems
  (Adopted Villages of University & Dept. of Social Work)
  - ➢ Date of the Workshop – 21/01/20
- No. of Participant Farmers & Villagers – 65 Farmers
  - ➢ Location of the Workshop – Musali Tal- Dharngoan, Dist-Jalgoan.
- Speaker of the Session: - Dr. Bhushan L. Chaudhari

Objective of the Workshop –

1. To This program has been organized with a view to increase the rate of development of sustainable agriculture among the rural farmers of Musali village.
2. The program has been organized with a view to make the rural farmers understand the texture of the soil and to know the health of the soil.
3. The program has been organized by the Department of Social Work under the University's Lab to Land initiative to remove the misconception among the farmers regarding sustainable agriculture.
4. To help the marginalized rural backward families (SC,ST) in rural areas to actively participate in sustainable agriculture activities.



While guiding the farmers of Musadi village, Prof. Dr. Bhushan L. Chaudhari



Hon'bl Sarpanch and village farmers present at the workshop. Dr. Bhushan Chudhari & Mr. Deepak Sonawane

HEAD
Dept. of Social Work (M.S.W.)
School of Social Sciences,
Kavayitri Bahinabai Chaudhari
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Project Co-ordinator
LAB - TO - LAND
Kavayitri Bahinabai Chaudhari
North Maharashtra University,
Jalgaon

(30)

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Report on

FARMERS TRAINING

Under

LAB TO LAND PROJECT

NO. of Participants Farmer :-85

Lab- TO – Land Project Workshop

Location of the Workshop- Pokhri Tanda Tal-Dharngaon Dist-Jalgaon

Discuses the agriculture Issues & Challenges of farmer & University Team

North Maharashtra University, Jalgaon

25 February 2020

Report on-11

Lab-To-Land Project

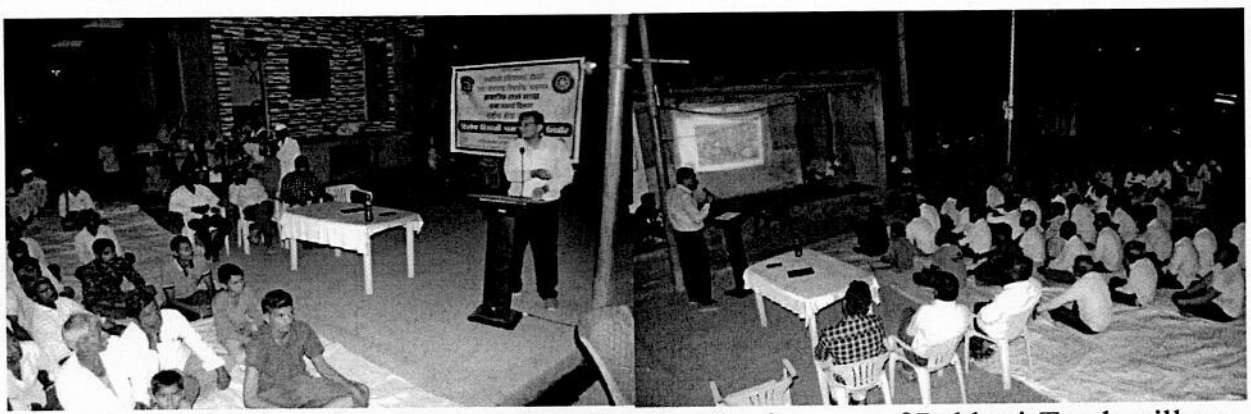
Agriculture is the main occupation of the rural population and in order to increase the income of the rural families who depend on the agricultural business and also to make them aware of the sustainable agriculture initiative. This program has been planned accordingly to introduce the sustainable agricultural practices in backward remote farmers from village of Kavayitri Bahinabai Chaudhari North Maharashtra University region in districts of Nandurbar, Dhule and Jalgaon.

- Title of the Workshop/Filed Visit –Identify the Farmer need and Problems
  (Adopted Villages of University & Dept. of Social Work)
  - Date of the Workshop – 25/02/2020
- No. of Participant Farmers & Villagers – 85 Farmers
  - Location of the Workshop – Pokhari-Tanda Tal- Dharangaon, Dist- Jalgaon.
- Speaker of the Session:- Dr. Bhushan L. Chaudhari

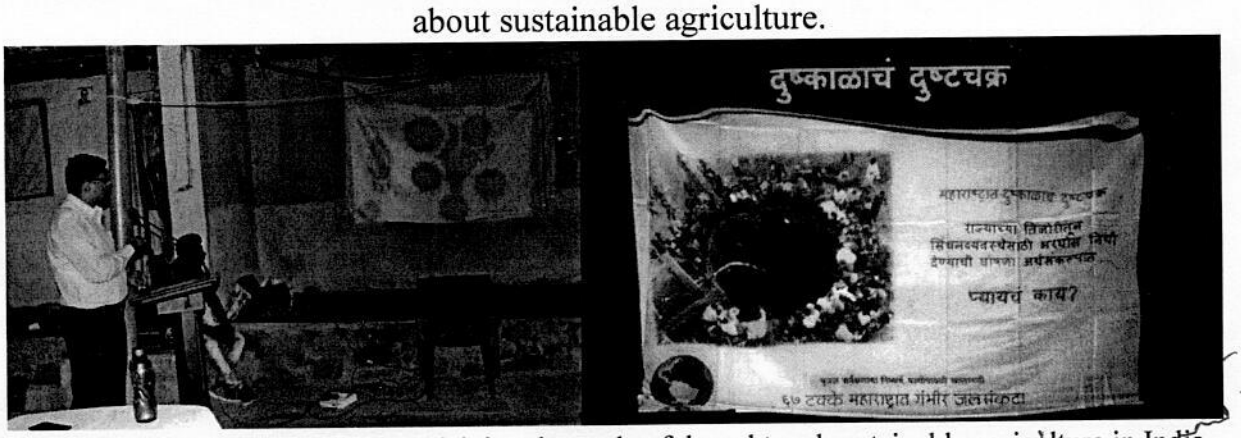
Objective of the Workshop –

The various activities carried out in the seven-day camp of National Service Scheme, a lecture has been organized by the Department of Social Work, Kavayitri Bahinabai Chaudhari North Maharashtra University, under the initiative 'Lab to Land' Project.

1. To make rural farmers understand the health of agriculture,
2. To inform the farmers about the activities related to sustainable agriculture
3. To inform the farmers about the adverse effects of chemical fertilizers and providing information on fertilizer and water use.



Prof. Dr. Bhushan Chaudhari while informing the farmers of Pokhari-Tanda village about sustainable agriculture.



Prof. Dr. Bhushan Chaudhari explaining the cycle of drought and sustainable agriculture in India.

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