



Balaghat Shikshan Sanstha, Naldurg's

Estd. 1971

## Arts, Science and Commerce Collage, Naldurg

Tq. Tuljapur, Dist. Osmanabad - 413602

Permanantly affiliated to Dr. Babasaheb Ambedkar Marathwada, University, Aurangabad

Principal : **Dr. Sanjay Korekar** (Junior, Senior & Post Graduation)  
(M.Sc.Ph.D)

NAAC - Grade - B

Phone : (0) 02471-246042

Mob : 9422749552

Email : asocollegenaldurg@gmail.com

Website : www.asocollegenaldurg.com

Ref. : AS/180t/MOU - 291

Date : 27/2/2020

### Memorandum of Understanding

Between

Department of Botany


Arts, Science & Commerce College, Naldurg Dist. Osmanabad-413602.

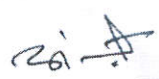
And

Department of Botany, D.B.F. Dayanand, Arts & Science College, Solapur-413002.


- 1. Parties.** This memorandum of understanding (hereinafter referred to as "MOU") is made and entered in to by and between Department of Botany, Arts, Science & Commerce College Naldurg Dist. Osmanabad-413602 and Department of Botany, D.B.F. Dayanand Arts & Science College, Solapur- 413002.
- 2. Purpose.** The purpose of this MOU is to
  - i) Undertake faculty exchange programme to conduct guest lecture.
  - ii) To carry out any other academic and research oriented activity.
- 3. Terms of MOU.** This MOU effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU. This MOU may be terminated, without cause, either party upon one month return notice which shall be delivered by hand or by certify mail to the address listed above.
- 4. Tenure of MOU.** 28.02.2020 to 28.2.2025.

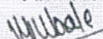
Department of Botany,  
Arts, Science & Commerce College Naldurg  
Dist. Osmanabad-413602

  
Signature of Faculty

  
Principal  
Arts, Science & Commerce  
College Naldurg  
Dist. Osmanabad  
Pin - 413 602


Department of Botany,  
D.B.F. Dayanand, Arts & Science College,  
Solapur.

  
Signature of Faculty

  
Principal

Date 27/02/2020

PRINCIPAL  
D.B.F. DAYANAND COLLEGE OF  
ARTS & SCIENCE, SOLAPUR.

  
PRINCIPAL  
Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





॥ ओं ३ म् ॥

तमसो मा ज्योतिर्गमय

Celebration of World Environmental day

By  
ON  
“One Day National Webinar”

“How to Improve Our Immune System Using Mushrooms & Millets”

Organized by

P.G. Department of Botany

D. B. F. Dayanand College of Arts & Science, Solapur

And

ICAR-Indian Institute of Millets Research (ICAR-IIMR)

## CERTIFICATE OF PARTICIPATION

This is presented to

**Prof.Dr.U.N.Bhale**

for his/her participation to the One Day National Webinar on “**How to Improve Our Immune System Using Mushrooms & Miller’s**” Organized by P. G. Department of Botany in collaboration with ICAR-Indian Institute of Millets Research on 5<sup>th</sup> June 2020.

Prof. Dr. M. N. Jagtap

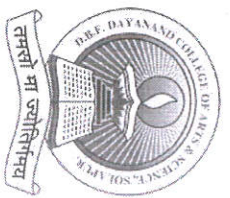
Convener

P. G. Coordinator

Prin. Prof. Dr. V. P. Ubale

Principal

**PRINCIPAL**  
Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





**"STUDIES ON OCCURRENCE AND DIVERSITY OF  
ARBUSCULAR MYCORRHIZAL FUNGI ASSOCIATED WITH  
IMPORTANT SEASONAL CROP PLANTS"**



**THESIS  
SUBMITTED TO  
DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY  
AURANGABAD – 431004 (M.S.), INDIA.**

**FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY  
IN BOTANY**

**By**

**Mr. RAJENDRAKUMAR SHRIMANT NARAYANKAR M. Sc.B.Ed.**  
Department of Biology,  
D.B.F. Dayanand College of Arts and Science, Solapur.  
Raviwar Peth, Dayanand Nagar, Solapur-413002

**Under the Guidance of**

**DR. U. N. BHALE M. Sc., Ph. D. FHAS.**

**Professor**

Department of Botany,  
Arts, Science and Commerce College, Naldurg,  
Tq. Tuljapur, Dist. Osmanabad - 413602 (M.S.)

**December-2020**

  
**PRINCIPAL**

Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





To,  
The Deputy Registrar,  
Ph.D. Section  
Dr. Babasaheb Ambedkar Marathwada University,  
Aurangabad- 431004.

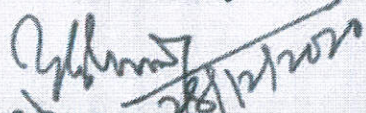
**Subject: Submission of Ph.D. thesis of Mr. Rajendrakumar Shrimant Narayankar**

R/ Sir,

With reference to the above cited subject, I am forwarding herewith three copies of Ph.D. thesis by Mr. Rajendrakumar Shrimant Narayankar. His thesis topic is "Studies on Occurrence and Diversity of Arbuscular Mycorrhizal Fungi Associated With Important Seasonal Crop Plants " He has completed his Ph.D. thesis work under my guidance. This is for your further information and necessary action. Please, accept the same and oblige.

Thanking you.

Yours Faithfully

  
(Prof. Dr. U. N. Bhale)  
**Dr. U. N. Bhale**

M.Sc.Ph.D., F.HAS  
Professor, Dept of Botany  
Arts, Science, Comm, College Naldurg  
Tq. Tuljapur Dist. Osmanabad  
Pin-413602 (MS) India

Encl:

- ✓ 1) Three copies of Ph.D. thesis.
- ✓ 2) <sup>Three</sup> Seven copies of thesis abstract.
- ✓ 3) CD of the thesis
- ✓ 4) Undertaking

O/c



30.12.2020  
Ph.D. Section  
Dr. Babasaheb Ambedkar  
Marathwada University,  
Aurangabad. (M.S.) 431004

  
**PRINCIPAL**

Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





**Dr. Babasaheb Ambedkar**  
**Marathwada University,**  
AURANGABAD -431 004 Maharashtra, India  
NAAC Re-accredited "A" Grade



स्थापना वर्ष १९५८

डॉ. बाबासाहेब आंबेडकर  
मराठवाडा विद्यापीठ,  
औरंगाबाद-४३१ ००४ महाराष्ट्र, भारत  
नॅक समिती तर्फे 'अ' दर्जा प्राप्त

विद्यावाचस्पती विभाग

**Ph.D. Section**

PH.D. Office :- (0240) 2403122	WEB SITE : www.bamu.ac.in	: http://bamua.digitaluniversity.ac	E-mail : phdsection@bamu.ac.in
--------------------------------	---------------------------	-------------------------------------	--------------------------------

Date :- 23/02/2021

Ref No. Ph.D./2020-21/ 8925-27

- 1 DR. R.M. MULANI,  
PROFESSOR,  
DEPARTMENT OF BOTANY,  
S.R.T.M. UNIVERSITY, DNYANTEERTH,  
VISHNUPURI, NANDED - 431606
- 2 DR. U.N. BHALE,  
RESEARCH GUIDE,  
DEPARTMENT OF BOTANY,  
ARTS SCIENCE & COMMERCE COLLEGE,  
NALDURG, TQ. TULJAPUR, DIST - OSMANABAD.

Subject :- Evaluation of Ph.D. Thesis of **Mr. R.S. Narayankar** Faculty of Science & Technology in the Subject of **Botany**.

Sir/Madam,

With reference to your acceptance on the above subject, I am forwarding herewith a copy of thesis received from the candidate referred to above. The proforma for evaluation report and the remuneration bill forms are also enclosed herewith.

You are, therefore, requested to fillup the form and return the same to this office duly signed on the necessary revenue stamp. The payment of remuneration will be made after having received from you the report alongwith a copy of the thesis.

Encl : As above

  
Deputy Registrar  
Ph.D. Section

  
PRINCIPAL

Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-431602





Ref.: ASCN/Bot/Ph.D./2020-2021/-166. Date:15/03/2021

Dr. Udhav Narba Bhale  
Professor & Research Guide  
Dept. of Botany,  
Arts Science & Commerce College  
Naldurg Dist Osmanabad- 413602,  
MS, India  
Mob No. 8830047123/9890742997  
Email- unbhale2007@rediffmail.com

To,

The Deputy Registrar,  
Ph.D. Section  
Dr. Babasaheb Ambedkar Marathawada University,  
Aurangabad

**Subject: Evaluation Report of Ph.D. Thesis in Botany submitted by Mr. R.S. Narayankar.**

Ref: Ph.D./2020-21/8925-27 dated 23/02/2021.

R/Sir,

With reference to the above subject and your letter bearing Ref No Ph.D./2020-21/8925-27 dated 23/02/2021, I am herewith sending the evaluation report of Ph.D. thesis entitled "Studies on Occurrence and Diversity of Arbuscular Mycorrhizal Fungi Associated With Important Seasonal Crop Plants" in the subject of Botany submitted by Mr. R.S. Narayankar.

This is for your kind information and necessary action.

Thanking you,

Yours faithfully

*[Signature]*  
15/03/2021

Dr. U. N. Bhale

M.Sc. Ph.D. PHAS  
Professor, Dept of Botany  
Arts, Science, Comm. College Naldurg  
Tq. Tuljapur Dist. Osmanabad  
Pin-413602 (MS) India

Encl:

1. Part I: Detailed Evaluation
2. Part II: A Detailed Evaluation Report (Separate sheet)
3. Part III: Final recommendation
4. Ph.D. Evaluation & Remuneration Bill

*[Signature]*  
PRINCIPAL

Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





Balaghat Shikshan Sanstha, Naldurg's

Estd. 1971

## Arts, Science and Commerce Collage, Naldurg

Tq. Tuljapur, Dist. Osmanabad - 413602

Permanently affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Principal : **Dr. Sanjay Korekar**  
(M.Sc.Ph.D)

(Junior, Senior & Post Graduation )

NAAC - Grade - B

Phone : (0) 62471-246042  
Mob : 9422749552  
Email : asccollegenaldurg@gmail.com  
Website : www.asccollegenaldurg.com

Ref : ASCN/Bot/MOU-292

Date : 27/02/2020

### Memorandum of Understanding

Between

Department of Botany

Arts, Science & Commerce College, Naldurg Dist. Osmanabad-413602.

And


Department of Botany, Shivaji University, Kolhapur-416004.

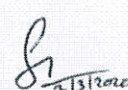
- 1. Parties.** This memorandum of understanding (hereinafter referred to as "MOU") is made and entered in to by and between Department of Botany, Arts, Science & Commerce College Naldurg Dist. Osmanabad-413602 and Department of Botany, Shivaji University, Kolhapur-416004.
- 2. Purpose.** The purpose of this MOU is to
  - i) Undertake faculty exchange programme to conduct guest lecture.
  - ii) To carry out any other academic and research oriented activity.
- 3. Terms of MOU.** This MOU effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU. This MOU may be terminated, without cause, either party upon one month return notice which shall be delivered by hand or by certify mail to the address listed above.
- 4. Tenure of MOU.** 02.03.2020 to 02.03.2025.

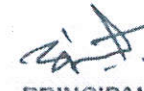
Department of Botany,  
Arts, Science & Commerce College Naldurg  
Dist. Osmanabad-413602


Department of Botany,  
Shivaji University,  
Solapur-416004.

Date: 2/3/2020

  
Signature of Faculty

  
Signature of Faculty

  
**PRINCIPAL**  
Arts, Science & Commerce  
College Naldurg  
Dist. Osmanabad  
Pin - 413602

  
**Head**  
Prof. & Head,  
Department of Botany,  
Shivaji University,  
Kolhapur.

  
**PRINCIPAL**  
Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





Estd : 1971



Balaghat Shikshan Sanstha's

**Arts, Science and Commerce College, Naldurg.**

(Junior, Senior & Post Graduate)

NAAC Accreditation 'B' Tq. Tuljapur, Dist. Osmanabad. – 413602.

Permanently affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. (M.S.)

**Prin. Dr. S. L. Korekar** (M. Sc. Ph. D.)

Ref.ASCN/ZOO1/MOU/2019-20/281

## Memorandum of Understanding

Date- 15-02-2020

Between

### Department of Zoology

Arts, Science & Commerce College Naldurg Dist.  
Osmanabad-413602.

And

Department of Zoology, Sharanbasva University, Kalaburagi. (KA).

**1. Parties.** This memorandum of understanding (hereinafter referred to as "MOU") is made and entered in to by and between Department of Zoology, Arts, Science & Commerce College Naldurg, Dist. Osmanabad-413602 and Department of Zoology, Sharanbasva University, Kalaburagi. (Karnataka).

**2. Purpose.** The purpose of this MOU is to


- Undertake faculty exchange programme to conduct guest lecture.
- Undertake students exchange programme to being about overall development of students .
- To provide infrastructure and human resources whenever needed for the said activity.
- To carry out any other academic and research oriented activity.

**3. Terms of MOU.** This MOU effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU. This MOU may be terminated, without cause, either party upon one month return notice which shall be delivered by hand or by certify mail to the address listed above.

4. Tenure of MOU: 15-02-2020 to 14-02-2023.

Department of Zoology Arts, Science & Commerce College, Naldurg, Dist.  
Osmanabad-413602.

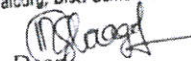
  
Signature of Faculty

  
PRINCIPAL  
Arts, Science & Commerce Coll  
Naldurg, Dist. Osmanabad-4131

Department of Zoology (Sharanbasva University) Signature of Faculty

Date: 15/02/2020

  
CHAIRMAN  
Department of Zoology  
Sharanbasva University, Kalaburagi.

  
Dean  
Faculty of Science & Technology  
Sharanbasva University  
Kalaburagi-585 103 -Karnataka

  
PRINCIPAL  
Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





Estd : 1971



Balaghat Shikshan Sanstha's

**Arts, Science and Commerce College, Naldurg.**

(Junior, Senior & Post Graduate)

NAAC Accreditation 'B' Tq. Tuljapur, Dist. Osmanabad. - 413602.

Permanently affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. (M.S.)

**Prin. Dr. S. L. Korekar** (M. Sc. Ph. D.)

Ref.ASCNI.Zool./MOU/2019-20/282

Date - 15-02-2020.

## Memorandum of Understanding

Between

### Department of Zoology

Arts, Science & Commerce College Naldurg Dist.  
Osmanabad-413602.

And

Department of Zoology, Gulbarga University, Kalaburagi. Karnataka.

1. **Parties.** This memorandum of understanding (hereinafter referred to as "MOU" is made and entered in to by and between Department of Zoology, Arts, Science & Commerce College Naldurg, Dist. Osmanabad-413602 and Department of Zoology, Gulbarga University, Kalaburagi. (Karnataka).

2. **Purpose.** The purpose of this MOU is to

- Undertake faculty exchange programme to conduct guest lecture.
- Undertake students exchange programme to being about overall development of students .
- To provide infrastructure and human resources whenever needed for the said activity.
- To carry out any other academic and research oriented activity.

3. **Terms of MOU.** This MOU effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU. This MOU may be terminated, without cause, either party upon one month return notice which shall be delivered by hand or by certify mail to the address listed above.

4. **Temure of MOU:** 18-02-2020 to 17-02-2023.

Department of Zoology Arts, Science & Commerce College,  
Naldurg, Dist. Osmanabad-413602.

Signature of Faculty

Signature of Faculty

Department of Zoology (Gulbarga University)

Date: 18/02/2020

**Dr. K. Vijaykumar**  
Professor and Chairman  
Department of Zoology  
Gulbarga University  
KALABURAGI - 585 106, Karnataka.

PRINCIPAL  
Arts, Science & Commerce College  
Naldurg, Dist. Osmanabad-413602

Dean  
ಪುಸ್ತಕಾಲಯ ವಿಭಾಗ  
ಕುಲಕರ್ತನ ವಿಜ್ಞಾನ ವಿಭಾಗ  
ಕಲಬುರಗಿ - 585 106

PRINCIPAL

Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





Balaghat Shikshan Sanstha's,

Estd : 1971



# Arts, Science & Commerce College, Naldurg

Tq. Tuljapur, Dist. Osmanabad - 413602  
(Junior, Senior & Post Graduation)

Prin. Dr. S. L. Korekar  
(M.Sc., Ph. D.)

Phone : (0) 02471 - 246042, 8 02471 - 242491.  
Fax : 02471 - 246043, Mobile : 9422749552  
E-mail : asccollegenaldurg@gmail.com,  
www.ascnaldurg.com

Ref. ASCN/Fish.Sci./2019-20/286  
Date : 5 / 2 / 2020

## Memorandum of Understanding

Between

Department of Fishery Science

Arts, Science & Commerce College Naldurg Dist. Osmanabad-413602

And

District Fisheries Development Office, Osmanabad

1. **Parties.** This memorandaum of understanding (hereinafter referred to as "MOU") is made and entered in to by and between **Department of Fishery Science, Arts, Science & Commerce College Naldurg Dist. Osmanabad-413602** And **District Fisheries Development office, Osmanabad**


2. **Purpose.** The purpose of this MOU is to

- i) Undertake faculty exchange programme to conduct guest lecture
- ii) Undertake students exchange programme to being about overall development of students
- iii) To provide infrastructure and human resources whenever needed for the said activity
- iv) To carry out any other academic and research oriented activity


3. **Terms of MOU.** This MOU effective upon the day and date last signed and executed by the duly authorized representatives of the parties to this MOU. This MOU may be terminated, without cause, either party upon one month return notice which shall be delivered by hand or by certify mail to the address listed above.

Arts, Science & Commerce College Naldurg  
Dist. Osmanabad-413602

District Fisheries Development office,  
Osmanabad

  
Dr. Sameer Patil  
Head of Department

Department of Fishery Scienc  
Arts, Science & Commerce Col  
Naldurg Tal Tuljapur, D. Osmanabad

  
PRINCIPAL  
Arts, Science & Commerce  
College Naldurg  
Dist. Osmanabad  
413602

Officer

(District Fisheries Development office, Osmanabad)

Date: 5 / 2 / 2020

  
कार्यालय

आयुक्त मत्स्यविकास  
कार्यालय  
डि. ओसनाबाद

  
PRINCIPAL

Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





Balaghat Shikshan Sanstha, Naldurg's

Estd. 1971

## Arts, Science and Commerce Collage, Naldurg

Tq. Tuljapur, Dist Osmanabad - 413602

Permanantly affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Principal : **Dr. Sanjay Korekar**  
(M.Sc.Ph.D)

(Junior, Senior & Post Graduation )

NAAC - Grade - B

Phone : (0) 02471-246042  
Mob - 9422749952  
Email : asccollegennaldurg@gmail.com  
Website - www.asccollegennaldurg.com

Ref. / 2020-21 / 280

Date : 31 / 01 / 2020

To,  
The Principal,  
Azad Mahavidyalaya,  
Ausa. -

Sub : Visit of Students to the Laboratory under Student  
Exchange programme in accordance with MOU

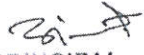
Respected Sir,

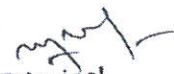
As a part of student exchange programme under MOU signed with the department of physics of your college, the students from the department of Physics of our college are visiting your college on 01/02/2020 with an intention to give exposure to the exceptional facilities available in your laboratory of Physics & Electronics.

Please allow them to visit and have interaction with your faculties as well -

Thank You.

O/c

  
PRINCIPAL  
Arts, Science & Commerce  
College Naldurg  
Dist. Osmanabad  
Pin - 413 602

  
Principal  
Azad Mahavidyalaya  
Ausa Dist. Latur

Scanned with  
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PRINCIPAL  
Arts Science & Commerce College  
Naldurg, Dist. Osmanabad-413602





Reg.No. OSM/36/78 F 312 L

Hindustani Education Society's

**AZAD MAHAVIDYALAYA, AUSA**

Afsar Nagar, Ausa Tq.Ausa Dist.Latur

Affiliated To S.R.T.M University Nanded, NAAC accredited B+



संख्या.नोंदणी क्र.05M/36/78 F 312 L

हलुदुस्थानी एजुकेशन सोसायटीचे

**आझाद महाविद्यालय, आसा**

अफसर नगर, आसा ता.आसा जि.लतूर

संघी महाराष्ट्र संशुद्ध शिक्षण, नालदुग, आसा, अफसर नगर - ४१३६०२

जा.क्र. AMO/phy/MOU/02/2020

दिनांक. 1/02/2020

To,

**Dr. S. S. Shinde,**

Department of Physics,

Arts, Science and Commerce College,

Naldurg, Dist. Osmanabad

Subject : **Letter of Appreciation**

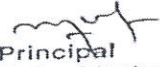
Sir,

Our Department of Physics & Electronics has organized a series of guest lecture for the students of under graduate. As a part of this lecture series, you have been invited to share your valuable thoughts and views on the topic **Transistor Manufacturing and Mechanism** on date 01/02/2020.

We are happy to inform you that our students have enjoyed your thoughts provoking lecture. We hope to get your kind co-operation in future also.

Thanking you

ed with  
canner

  
Principal  
Azad Mahavidyalaya  
Ausa Dist. Latur

  
**PRINCIPAL**  
Arts Science & Commerce College  
Naldurg, Dist.Osmanabad-413602

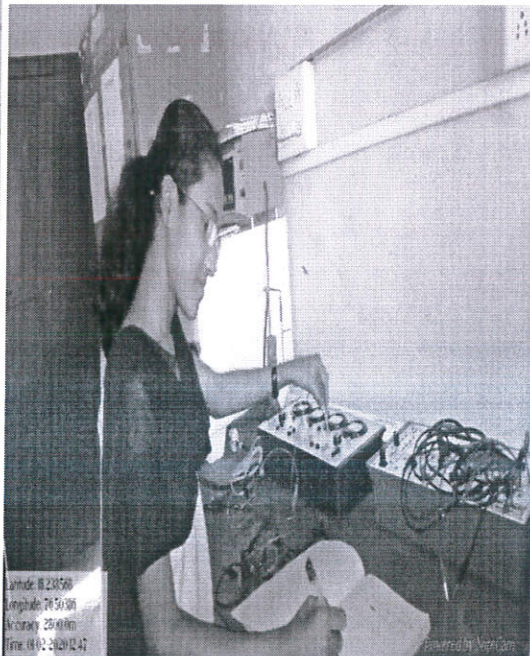





Time: 02-01-2020 10:23  
Note: Dept. of phy. Student



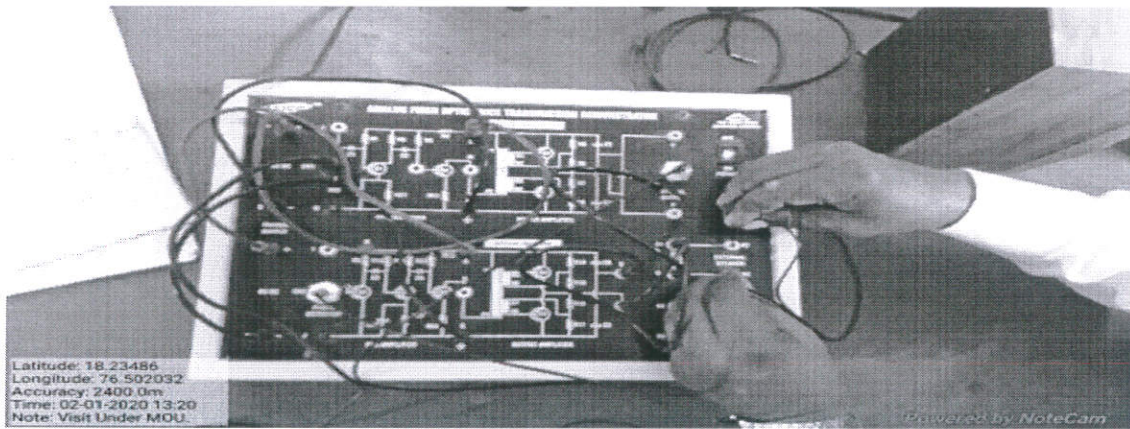
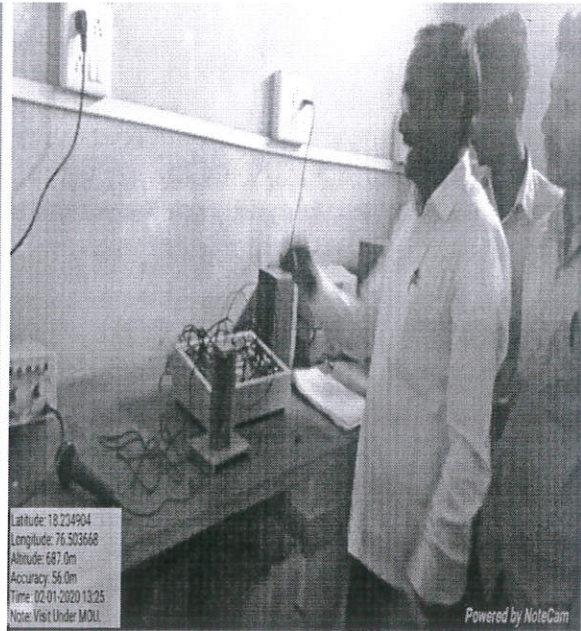
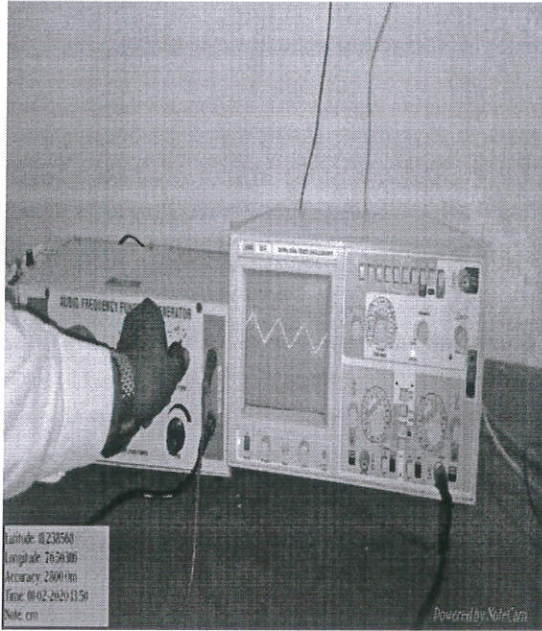
Latitude: 18.238580  
Longitude: 76.563360  
Accuracy: 20.000m  
Time: 16-02-2020 12:47



Latitude: 18.238580  
Longitude: 76.563360  
Accuracy: 20.000m  
Time: 16-02-2020 12:47

  
**PRINCIPAL**  
Arts Science & Commerce College  
Naldurg, Dist.Osmanabad-413602





Visit Of B.Sc. III year students at Physics and Electronics lab of Azad college ,  
Ausa under MOU.

  
**PRINCIPAL**  
Arts Science & Commerce College  
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2	Shitre Shyam Bhaskar	B.Sc-III	
3	Jadhav Pradip Dharmraj	B.Sc-III	
4	Ku.Katte Aarti Rajendra	B.Sc-III	Aarti
5	Ku.Halde Sujata Biru	B.Sc-III	
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This Memorandum of Understanding (MoU) is signed between

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And

Department of Physics,

Arts, Science and Commerce college Naldurg, Tq. Tuljapur, Dist.  
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For working in association with each other under faculty exchange programme, therefore, it is agreed to conduct the guest lectures by both faculty of both colleges for the students of both colleges. Both the colleges will provide infrastructural and human resources wherever needed for the said activity.

This Memorandum of Understanding is active for the duration from October, 2019 to October, 2024

Hence signed

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# Journal of Research and Development

*A Multidisciplinary International Level Referred Journal*

June 2021 Volume-11 Issue-26

*Impact of Environment on Agriculture, Health,  
Water Resources, Social Life & Industrial  
Development*

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Dr. R. V. Bhole

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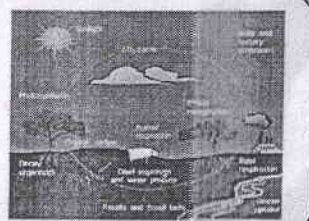
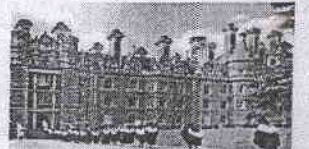
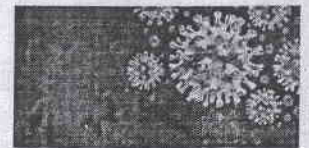
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# **Journal of Research and Development**

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*20 July 2021 Volume-11 Issue-26*

*On*

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## Impact of Environment on Health

R. M. Mahindrakar<sup>1</sup>, R. V. Suryawanshi<sup>2</sup>

<sup>1</sup>Department of Physics, Arts, Science and Commerce College Naldurga, Ta. Tuljapur,  
Dist. Osmanabad M. S., India

<sup>2</sup>Department of Electronics, Azad Mahavidyalaya Ausa, Ta. Ausa, Dist. Latur- 413520, M.S. India

<sup>2</sup>Email: sundarvs1095@gmail.com

### Abstract

Improvements in fitness is the environmental medications may want to attain are a need while deciding on environmental fitness motion to forestall infection. An evaluation of the fitness influences from the fundamental threat elements untreated ingesting water, negative hygiene, mistaken sanitation is seemed to motive infectious sicknesses along with cholera, diarrhea, dengue etc. The wager of preventable fitness influences through the surroundings as a whole. The environmental opportunities can pressure up the possibilities of contracting coronary heart sicknesses, and numerous infections. The surroundings are a traditional international wherein all of us are alive today. Eco-pleasant fitness is one of the primary fields inside network fitness due to the various methods out of doors forces can have an effect on how we eat, live, and grow. The influences of environmental degradation on human fitness are critical for the development of well-knowledgeable techniques through the fitness sector. The measures taken to govern to unfold of the virus have widespread outcomes at the surroundings. This examines additionally specializes in the nice and poor environmental influences of the COVID-19 pandemic, through analyzing the to be had medical literatures. The pandemic scenario meaningfully recovers air first-class in distinctive cities, reduces GHG emission, water pollutants, noise, and reduces the load at the traveler terminus BS. There are a few poor results of COVID-19, along with the upward thrust of scientific waste, random use and elimination of antiseptics, masks, and purses constantly risking the surroundings.

**Keywords:** Environmental medications, Health influences, Environmental opportunities, Environmental influences, COVID-19 pandemic.

### Introduction:

The thinkable fitness profits because of environmental interferences and ailment issues may be prevented through making use of them are important issues for decision-making closer to public fitness motion. Counting the ailment trouble produced through the surroundings has been complex given the relative loss of evidence. Due to the improvement of the latest gear in epidemiologic exam and techniques to wager people's fitness outcomes, had been evolved. The fitness influences from out of doors air pollutants had been evolved which can be extra latest entire and relative analyses techniques include, a comparative threat evaluation of threat elements that are environmental, estimates of the worldwide effect of the surroundings on fitness. On the country wide level, several comparable researches had been established, displaying the significance and hobby for such records. In this newsletter, we strive to offer the effect of the surroundings on fitness. The pandemic has produced huge worldwide disturbance, which could without delay or not directly have an effect on the surroundings like perfection of air and water first-class, lower of noise and maintenance of biology. The larger use of private protective equipment along with face mask, hand gloves, gowns, goggles, face protect etc. and their random elimination creates an environmental load. In those conditions, this examines proposed to find out the useful and awful environmental importance of the COVID-19 pandemic, and endorse in all likelihood plans as upcoming recommendation for environmental sustainability (1-6).

### Methodology:

This examines changed into done through rereading the to be had posted literature, case research, and distinctive authorities and non-authorities' businesses record from reviews and reliable websites. Scientific literatures have been accumulated through digital manner from the database of Science Direct, Springer, ISI Web of Knowledge, Research Gate, and Google Scholar. This examines accumulates and gives the records that are relevant to the environmental outcomes of COVID-19 and get to examine objectives.

### Result and Discussion:

Environmental pollution reason damaging fitness consequences. Several of poisonousness and opposite fitness affects in addition to the associated modes of movement stay mental. In the modern-day stage, a number one trouble in knowledge environmental fitness troubles is the dearth of appropriate technology and theoretical methods. The international disturbance produced with the aid of using the COVID-19 has carried approximately a few consequences of the surroundings and weather. Due to pressure-manipulate and a large stoppage of social sports, air first-rate has advanced in lots of towns, with a discount in water pollutants in one-of-a-kind components of the countries. Increased use of PPE, face mask, hand gloves, their random elimination and technology of a substantial quantity of medical institution



waste has bad effects at the surroundings. There are each wonderful and bad environmental effects of COVID-19. Due to the closed down of industries, transportation and agencies has added an unexpected drop of greenhouse gases emissions. Levels of air pollutants have decreased due to measures taken to manipulate the virus. It can be claimed that discount of nitrous oxide and carbon monoxide passed off because of the shutdown of heavy industries. Typically, nitrous oxide is made out of the fiery of fossil fuels, which comes from motor automobile exhaust. It is said that because of nitrous oxide reasons, acid rain and numerous respiration sicknesses suffered with the aid of using humans. It became additionally said that, the ranges of nitrous oxide decreased in Delhi, the capital of India all through the lockdown. We understand that cars are predominant sponsors of emissions and make a contribution to the delivery sector's GHGs emission. Due to the reduced passengers and regulations on flights are being cancelled with the aid of using business plane agencies because of the pandemic, that could deduct carbon dioxide emissions, which has consequences of the surroundings. Much less intake of fuels decreases the greenhouse gases emission, which allows to combat in opposition to international weather change. In this era oil call for has decreased, international coal intake is likewise decreased due to much less electricity call for all through the lockdown duration. The pandemic duration may want to lower carbon dioxide fuel line because of the above cited condition. During the lockdown duration, many businesses reassert of pollutants have absolutely stopped, which helped to lessen the water pollutants. The river Ganga and Yamuna have reached a momentous stage of cleanliness because of the absence of business pollutants on the times of lockdown. Due to the enforcement of a ban on public gathering, the wide variety of vacationers and water sports had been decreased in lots of places. Due to the COVID-19 lockdown, the meals waste is decreased, which subsequently decreases soil and water pollutants. Enormous quantities of strong refuse are generated from production, and production approaches liable for water and soil pollutants are decreased. Due to excessive ranges of sound noise, pollutants are generated from one of a kind human sports which includes machines, cars, production paintings which may also result in opposite consequences in humans. Noise dangerous consequences on physiological fitness at the side of cardiovascular disorders, hypertension, and sleep shortness of humans. It can be referred to that hundreds of thousands of humans are liable to listening to loss because of noise pollutants. Anthropogenic noise pollutants have opposite effects at the surroundings via the converting equilibrium in predators. Noise additionally negatively impacts the invertebrates that assist to manipulate environmental approaches which might be active for the stability of the ecology. Huge quantity of antiseptics is implemented into residential regions to dispose of viruses. Such extensive use of antiseptics may also kill non-centered useful species, which may also create ecological imbalance. Directly or indirectly, the effect of this pandemic surroundings is affecting human life, human fitness. It recaps how we've left out the environmental mechanisms and imposed human made weather change.

**Conclusions: -**

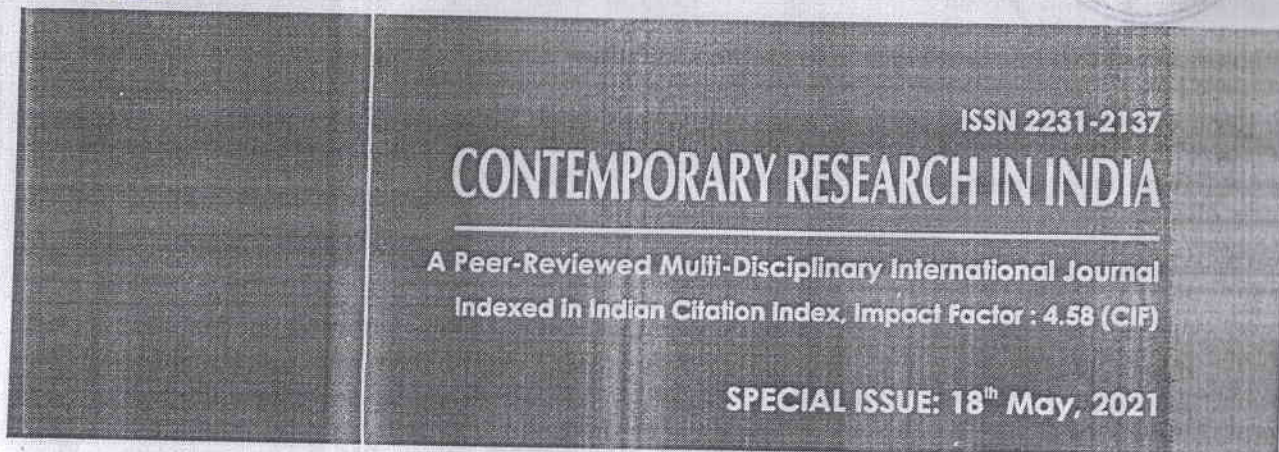
1. The COVID-19 has carried approximately a few consequences of the surroundings and weather.
2. Both wonderful and bad environmental effects of COVID-19.
3. Less intake of fuels decreases the greenhouse gases emission, allows to combat in opposition to international weather change.
4. Construction and production approaches liable for water and soil pollutants are decreased.
5. We need to reflect inconsideration on the way to forget about the environmental mechanisms and imposed human made weather change.

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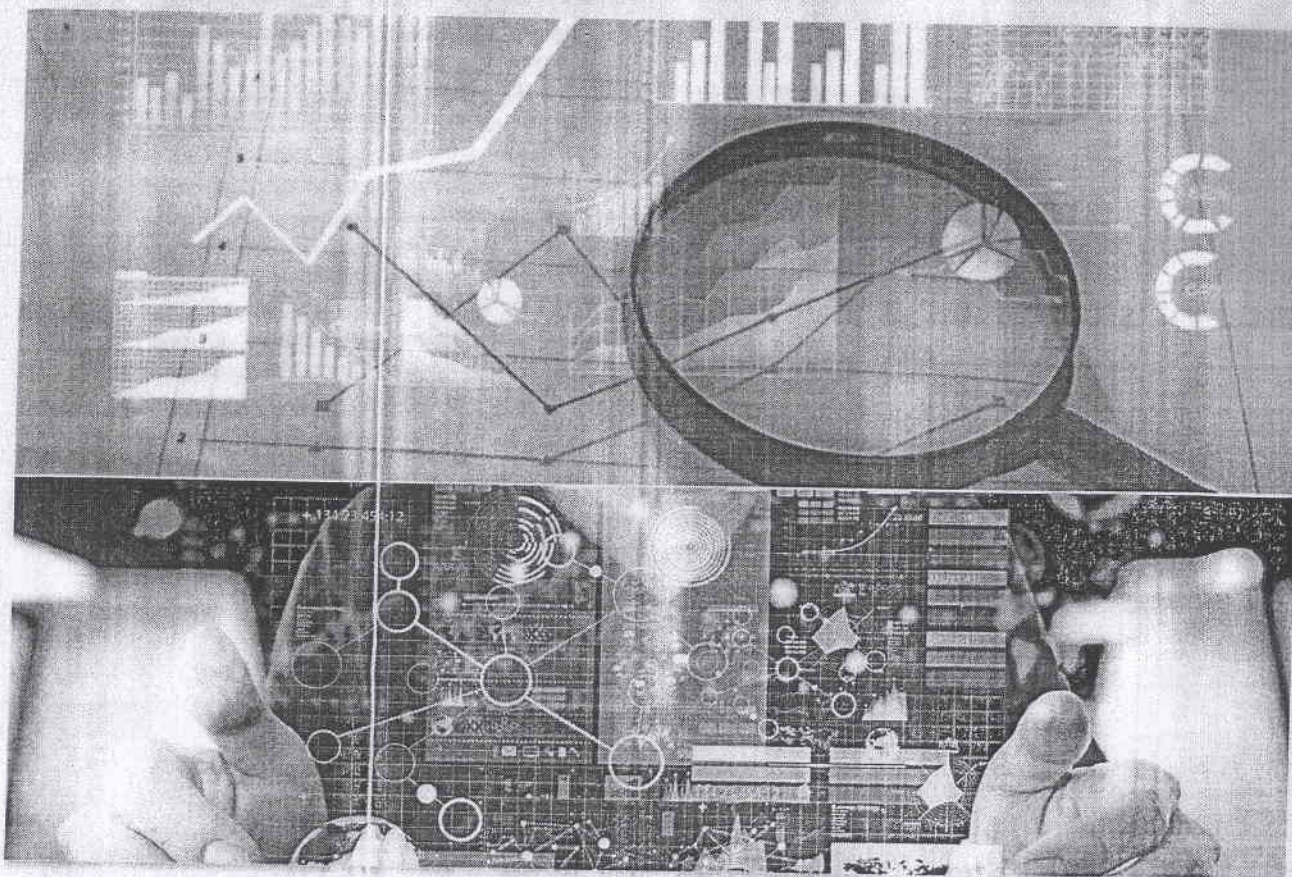


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## IMPACT OF THE COVID-19 PANDEMIC ON EDUCATION

R. V. Suryawanshi<sup>a</sup>, R. M. Mabindrakar<sup>b</sup> and G. D. Tingare<sup>c</sup>,

<sup>a</sup>Department of Electronics, Azad Mahavidyalaya Ausa, Ta. Ausa, Dist. Latur, M.S., India

<sup>b</sup>Department of Physics, Arts, Science and Commerce College Naldurga, Ta. Tuljapur,  
Dist. Osmanabad, M. S., India

**Abstract:** The COVID-19 pandemic has affected instructional systems over heat world, resulting in the closings of faculties, universities and faculties. Governments determined to provisionally shut instructional establishments in an endeavor to scale back the unfold of COVID-19. Several countries presently implementing wide closures and are implementing native closures, impacting nearly forty seven percent of the world's student population. College closures impact not onhson students, teachers, and families but have widespread economic and social consequences. College closures in response to the pandemic have effect on social and economic problems, as well as student debt, digital learning, food insecurity, and impoverishment, yet as access to service, health care, and housing, internet, and incapacity services. The impact was additional severe for deprived kids and their families, manufacturing interrupted learning, compromised nutrition, service issues, and eventful economic value to families. Efforts to slow the unfold of COVID-19 through non-pharmaceutical interferences and defensive measures like social-distancing and self-isolation have sponsored the wide unfold nearer of primary, secondary, and tertiary schooling. Mathematical demonstrating has shown that transmission of a pandemic could also be postponed by closing faculties. Influence depends on the contacts kids maintain outside of faculty. College closures appear effective in decreasing cases and deaths, particularly once recognized duty. If college closures occur late virtual to a pandemic, they're less effective and should not have any impact in the least. The reopening of schools and colleges once a amount of closure has resulted in enlarged infection rates. As closings tend to occur at the same time with different interventions like public gathering bans, it will be troublesome to live the precise impact of school, college closings.

**Key Words:** instructional systems, college closures, interrupted learning, incapacity services, Interventions.

### 1. Introduction

As of twelve January 2021, or so 825 million learners affected due to college closures in response to the pandemic. As per United Nations International Children's Emergency Fund watching, twenty three countries presently implementing nationwide closures and forty measure implementing native closures. One hundred twelve countries' schools presently open(1-5), college closures within the town of Japan etc. were found to possess with success ablated variety of infected students at the height of infection; but closing colleges wasn't found to possess considerably ablated the entire number of infected students(6). Obligatory college closures and different social distancing measures were related to a twenty ninth to thirty seventh reduction in gripe transmission rates (7). Once there's lowest to moderate community transmission, social distancing methods will be enforced like suspending or

cancelling journeys, assemblies, and different huge gatherings like education or choir categories or meals in an exceedingly restaurant, increasing the house between desks, staggering arrival and dismissal times, limiting nonessential guests, and employing a separate health workplace location for youngsters with flu-like symptoms. Once there's substantial transmission within the area people, additionally to social distancing methods, extended college dismissals could also be thought-about (8). Methods i.e. of rotating schedules, feeding lunch within the schoolroom, and utilizing outside places are some ways that to attenuate shut contact. The precautions of face masks, hand sanitizer stations, rearranging school rooms to help physical distancing, and frequent cleanup. Younger kids are at higher risk of sorrow from long educational significances and organic process insufficiencies while not in-person learning. Instructional establishments revolved to





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business services to require over examination however all issues were raised concerning student confidentiality, scrutiny, and therefore the impact on student intellectual health. The absence of student to teacher interaction has conjointly run students to feel less neurotic concerning the honesty of their work. The result of this can be to leaves students in uncompleted assignments or turn in no one in the least just because education has become fewer significant due to COVID-19.

### 2. Result on group action of scholars

Due to the COVID-19 pandemic over ninety percent of scholars in rural and concrete space, children's unable to attend school and college physically due to temporary closures and lockdowns. The youth and children's don't seem to be attending the colleges and faculties owing to indefinite country wide college closures mandated by governments in an endeavor to slow the unfold of COVID-19. There have been no availability of move facility i. e. there have been no buses, autos, college buses etc. Particularly in geographical area students haven't their own bikes, they coming to school and colleges from completely different areas, unable to run a way distance. Some students square measure tormented by cash downside, they were learning with earn and learn theme. Even once college closures square measure temporary, it carries high social and economic prices. The turbulences they cause have an effect on individuals across societies, however their impact is easier for impoverished kids and their families as well as intermittent learning, bargained nutrition, service issues and ensuing economic value to peoples UN agency cannot work. College performance pivots critically on maintaining shut relationships with lecturers. Notably this can be true for college kids from poor backgrounds, UN agency might not have the parent support needed to find out on their own. Waged oldsters square measure additional seemingly to miss work once faculties draw in order to require care of their kids, suffering financial gain loss in several cases and noxiously impacting yield.

### 3. On-line Teaching, Learning and Unequal Access to Technology

Online learning has become a essential lifeline for education, as establishments ask for to reduce the potential for community transmission (2). During this COVID-19 pandemic, many colleges began conducting categories via video telephone software system like Zoom, Google schoolroom or Google Meet. Technology will assist academics and students to access explicit materials well on the far side textbooks, in multiple formats and in ways in which will linking time and house. Faculty closures negatively impact student learning outcomes (9). Faculties provide essential learning and once faculties shut, kids and youth are depressed probabilities for growth and development. Once faculties shut, fathers are commonly asked to assist the educational of kid's reception and might fight to perform this assignment. This is often very true for foyeys with restricted education and resources (9). Students gain acquisition slower throughout faculty closures than in a tutorial year. It's been ascertained that the speed of reading ability gain in kids slows down throughout faculty closures compared to active schooling. Student drop-out rates increase as an impression {faculty of college} closures because of the task of guaranteeing all students come to high school once school closures ends. This is often very true of long closures. Faculties also are centers of group action and human interaction. Once faculties are closed, several kids and youth miss out on social contact that's essential to learning and development. Deficiency of access to technology or quick, unfailing net access will avoid students in rural areas and from poor families. Deficiency of access to technology or sensible net property may be a drawback to continued learning, particularly for college students from poor families. Within the lack of different choices, operating folks often leave kids alone once faculties shut and this will result in dangerous behavior, together with magnified influence of noble pressure and material misuse (9). Poor kids are additional probably to not come to high school when the closures are over and also the

  
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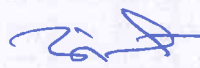
result can often be a life-long disadvantage. Teachers' awareness of student handling considerably reduced with every education level. For college students while not net reception will increase the problem of learning. Faculty closures put a tension on folks and guardians to deliver child care and manage learning whereas kids are out of faculty. The ways went to stop tutorial crash, like attending school term, visiting libraries, and taking part in summer-based activities don't seem to be offered throughout the pandemic. Teaching students have lost the structure they need so as to reach the secondary surroundings. Students struggle with independence and are in danger of dropping behind because of distracters in their home and on-line. Because of COVID-19

pandemic several schools and universities have stirred aloof from needed uniform tests for admissions, or creating the condition elective. The closing of schools and universities has in depth individual, structure, and learning and teaching suggestions for college students, faculty, directors, and also the establishments themselves. Students are expected to submit the beginning of their studies for his or her collegian degree to a future year because of the pandemic. The shortage of standard education among all students, learning appears tougher to manage. The pandemic has created an environment wherever students UN agency have an inspiration concerning their future profession, are learning essential info behind a demonstration.

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# COVID-19 Crisis and India

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### **COVID-19 Crisis and India**

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Chapter  
**42**

## Rural India and Covid-19

*R. V. Suryawanshi,  
R. M. Mahindrakar, G. D. Tingare*

### Abstract

With the reoccurrence of the societies, India's villages observe the initiation of the virus. It was the time of pandemic which would cross over to rural India. In rural area it would be observing the healthcare facilities and the lack of infrastructure as well as economic support. The effect of COVID-19 lockdown was seeing with travelling labourers who were running towards their villages to find kindness. Some were reached their homes but some failed on roads and railway paths. The study shows the difficulty of migratory labourers and impact of COVID-19 on rural economy. The main study of this pandemic advises that in India, comfortable economy are at the hazard of reducing during in this disaster. The reporting of COVID-19 suggests that due to low testing, community spread will result. The lockdown will create an excess effect on the agriculture and rural economy. Due to such situation a large number of peoples are suffering into hopeless and unfit. This pandemic will have minor and extended effect on the rural economy in India. The government economic package contains long-term and short-term procedures such as cash funding should be given by government to save wandering labourers and farmers.

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*Key Words: Reoccurrence, Healthcare, Labourers, Community spread, Government economic package.*

#### **Introduction**

COVID-19 was first indicated a public health emergency and later a pandemic by the World Health Organization (WHO) [1, 2]. The spread of the novel virus is in more than 190 countries. There are a national emergency and lockdown in most of countries. The pandemic situation is not new for India, the Plague (1896 to 1939) and Spanish flu (1918) in the past caused 12 million deaths in just three months [3]. More than hundred thousand cases are reported in India from COVID-19 and more than three thousand people have lost their lives [4]. India's struggle to fight COVID-19 virus has been dear over the world. The lockdown came on economic price and sinking impact on all the sections of people. The COVID-19 pandemic has triggered a vast movement from the urban to rural areas in large parts of the country. Indian roads are flooded thousands of labourers flowing back to their villages to find some friendliness and sympathy (Dandekar and Ghai, 2020). Labors are the main part of development of countries from centuries which have been working day and night for the economic success of any area. They are the most liable and have no permission to any kind of social safety. The prescribed reversers' arrangement from urban to rural areas will have a significant impact on the demography, development and low-cost of rural India. The wandering labours were marginal farmers in the past which left their farms and moved to urban areas for well financial probabilities. The spontaneous different transfer among agricultural crisis poses a big risk on people to fall into hopeless insufficiency. The current study in this paper is focus on the impact of reverse migration on rural society and their economy. The results of the study suggest that COVID-19 will have small and long effect on the economy of rural India. Within the short period due to the extra load on the health there would be high humanity and loss of economic. The back migration of people will produce extra load on the farming and rural budget which will result into depressing deficiency.

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### Health Arrangement for Rural Areas

Private Hospitals are very costly and out-of-the-way in rural India for the majority of peoples who unable to reach and take consent in the time of need. In the critical period of COVID-19 patients, everyone will require healthcare services such as intensive care units (ICU), ventilators provision of oxygen etc. All the COVID-19 positive patients were shifted to government hospitals. It is important to note that where are the places i. e. hospitals are stand in terms of infrastructure to contest the novel virus. Many states and rural areas in India were absence basic healthcare requirements such as physicians and health workers. For treating COVID-19 patients requires isolation wards and better health facilities such as ICU, bed with oxygen facilities and ventilators. There was no availability of vehicles or ambulance within time especially in rural areas. There would be a main reason to get the treatment for that affected patients. The insufficiency of doctors and health workers shows less anxiety in the government health care centre. Many of the servant's in rural government hospital have not stay in the campus of *rughnalya*, it's also a main reason for inconvenience. Even though with high population density, mass deficiency and poor health infrastructure in rural India there were lower cases were reported. There is also too much criticism of low testing in rural India. There is an observations especially in rural area with a lower level of COVID-19 testing is examined.

### Agriculture influence in Rural Area

We know that India is the country of villages, where the major people's lives in rural areas. Agriculture-related services are the main sources of income of the peoples. In the past few years, farm suffering run due to transfer of peoples from rural to urban area. Higher growth from information and technology sector helped India to grow fast but it is also responsible for the rural and urban divide. Regardless of high growth from the IT sector in the past two decades, agriculture continued a major source of income for the majority of the population in India. In recent few years, the yield of crops became stationary across the countries due to labours





problem. Apart from static productivity low producer price are major factors responsible for the agricultural crisis. The main reason of the agricultural crisis is may be related to the responsibility of farmers. The Indian farmers are suffering because of the sudden increase in agricultural expenditures and low earnings. Farmers in rural area regularly borrow money from the disorganized sector such as from *Sahukars* on high-interest rates and when they do not get to manage to pay back the principal amount with the interest, the load increases vastly and it becomes difficult to pay. The significance of given situation results into farmers suicide in rural area. COVID-19 brings crisis on several economic and non-economic points over the India as well as world. There would be problems arises in demand and supply of agriculture product due to labours problem. The reverse migration in the agricultural sector from urban to rural areas is bearing big challenges on the rural economy. The return attitudes play a significant impact on the demography, society and economy of rural areas. The reverse migration expressively effects on population size and arrangements over the period. It is very difficult for people to integrate from the society among terror of infection from the virus especially in rural area. Return migration from urban to rural areas has a significant impact on the economy of the rural areas. In few cases it dramatically contributes towards increasing the economic activities in the rural area. In this pandemic, returnees are coming with empty hands which have left their purpose to save their life from deficiency and hunger. The farmers in rural area are small land holders facing the problem of decreasing productivity and water shortage. The reverse migration of people due to lockdown will increase burden on agriculture which is already overloaded. The reverse migration of rural from urban shall result in to fall in the price of crops which will reduce farmer wages and per head income. Due to low productivity and high labours charge there will be a rise in the prices of food items which will mainly affect poor people. This pandemic shall affect on producer price and increasing pressure on the agricultural sector which will lead to an increase in rural unemployment.



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### Conclusion

Conclusively the effect of COVID-19 on health arrangement and agriculture influence in rural Indian, the specific points of the studies are as:

1. In the long-run to decrease inequalities of income, regional imbalance and share of migrant workers.
2. Government has to work on the mechanism of how the labours in rural are brought back to their respective jobs.
3. Health facilities and availability should be increase.
4. Affected the activities of farmers in rural areas.
5. Wage subsidy should be given to rural sector.

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**Impact of Environment on Agriculture, Health,  
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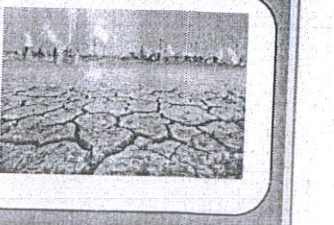
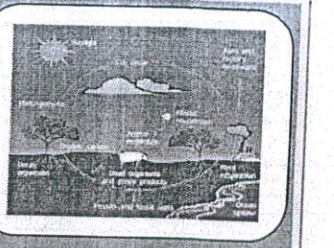
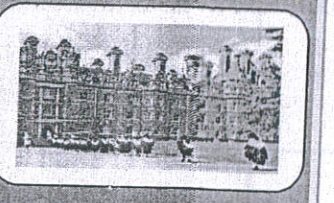
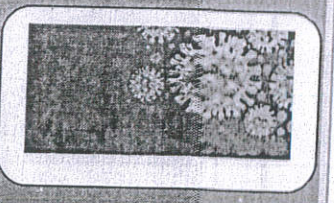
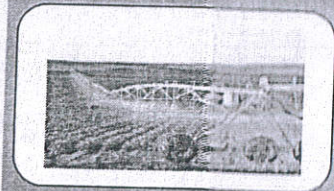
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## Covid-19 and Its Impact on Agriculture

R. V. Suryawanshi<sup>a</sup>, R. M. Mahindrakar<sup>b</sup>, G. D. Tingare<sup>a</sup>, B. D. Ingale<sup>a</sup>

<sup>a</sup>Department of Electronics, Azad Mahavidyalaya Ausa, Ta. Ausa, Dist. Latur M.S. India

Email: sundarvs1095@gmail.com,

<sup>b</sup>Department of Physics, Arts, Science & Commerce College Naldurga, Ta. Tuljapur Dist Osmanabad

### Abstract

Majority of the population in India depends upon the agriculture sector. Agriculture is the backbone of any India. It is the main sector which generates employment in our country. In the ongoing pandemic situation, the source of revenue of all the farmers and the people who are dealing in this sector are at high danger. Farmers in India were not capable of harvesting their crops because their labourers had run away back to their villages. The crops were left floppy on the farm and the productive nature of the land-living is no longer obtainable. Which leads to a lot of loss for the farmers who are totally dependent upon farm produce as a source of income. In the early months of the lockdown, transport vehicles were not allowed to enter other states. The agricultural produce is short, so it produces a lot of damage in the agricultural product. The closing of restaurants and road foodstuff channels eliminates the market basics for all these agriculturists.

**Keywords:** Agriculture sector, Pandemic situation, Farmers in India, The land-living, Road foodstuff channels.

### Introduction

India is not only affected by the pandemic but it is also affected by Cyclone Amphan and earthquakes have also disturbed the agricultural area. Indian farmers all over the country are wondering over their feet and they are thinking why Divinity is treating them in such a way. This is a very critical time for the farmer who has totally invested in this agriculture sector and whose source of income depends upon agriculture. If we take the example of , it is the biggest creator of fertilisers. It is the first nation that was infected with the Covid-19, there has been a difficult impact on farming. Due to worldwide disturbance, farmers are facing a lack of agricultural inputs. In India, the process of agriculture will be disturbed due to the kharif season. Indian farmers need many quintiles of seed for kharif and rabi season but with many obstacles this has not been acquired. The food supply chain has been achieved by the pandemic which also results in a lack of food safety between the greatest helpless segments of the population. We also observe that the migratory labourers directly affects the agricultural sector employment. Many labourers have lost jobs and due to this, the demand for food will also go down or be reduced from them. Many agricultural labourers are incapable of boosting themselves out of insufficiency and food uncertainty. Synchronized strategy comebacks are needed to give funds for farming and the maintenance and working conditions of agricultural workers. National lockdown has strictly affected livings and agriculture across rural India [1, 2].




### Methodology

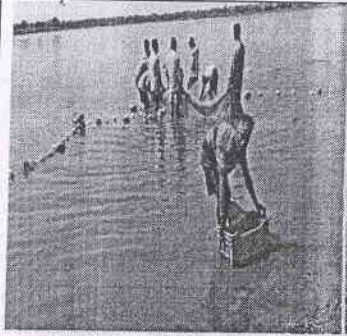
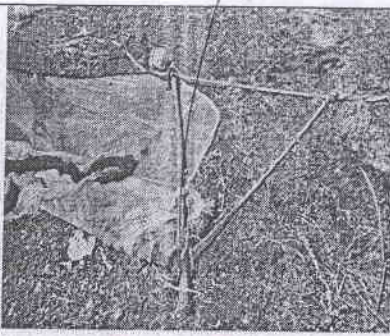
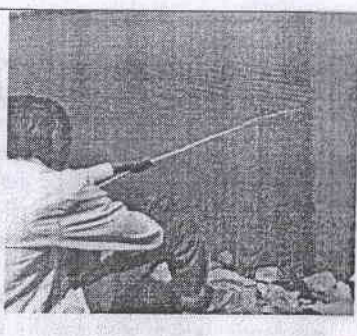
We have used an online method using various online sources for this work, which has mainly surveyed some important impact on agriculture. The given paper was prepared by studying the available published literature, and different government and non-government information from reports and official websites. Scientific literatures were collected through electronic means from the database of Science Direct, web of Knowledge, news paper etc. Also we use research Gate, and Google scholar for this study. From various views, this study implies the information which regards the effect of COVID-19 on agriculture (1).

### Result and Discussion

Majority of India's farmers are small farmers who have less than two hectares of farm. The Rabi as well as Agat crop was ready for harvest in many fields when the COVID-19 crisis brought, this was also the time for gathering of plantation crops. At the aftershock of the lockdown, harvest of the Rabi and Agat crops has been delayed due to non-availability of labour, machinery like, harvesters, threshers, tractors etc. Transport facilities and restrictions on movement were declared at that time so farmers of unpreserved merchandise like fruits, vegetables, and flowers have been incurring losses. This was the peak flowering season when the demand was also in height. Many farmers who cultivate flowers and vegetables as a cash crop in their farming system, have gained loss in what would otherwise have been the period of peak earning from sale of flowers and vegetables. Ingathering of plantation crops has been late, disturbing the cash stream of farmers. Agriculture labourers were not ready to go to work due to lack of transport. Labour work under the Mahatma Gandhi National Rural Employment Guarantee Scheme has stopped. Particularly small dairy and poultry farmers engaged in contract farming had faced a main loss with many private contract businesses rejecting to boost the yield. Family groups were between the most weak in terms of food and nutrition security. In addition to farm based activities, the collection and sale of non-timber



		
<b>Masula type wooden non-mechanized boat</b>	<b>Air filled rubber tubes</b>	<b>Thermocol raft</b>

		
<b>Drag net</b>	<b>Hand Drag Net (Pilna net);</b>	<b>Hooks and Line</b>





produce by farmers has been seriously affected by the lockdown, with no agents coming and markets closed. The casual sector is a major source of credit in rural areas, and using at high rates of interest is expected to stream over the disaster. The agents were charging heavy interest for advance credit to be paid after harvest of flowers and vegetables but farmers were unable to pay due to disturbance of the supply chain. There were also gaps in reaching relief in cash and kind to the poor and needy as seen in media reports. Several civil society organisations with field existence have been involved in providing support that is possible under the conditions. Consciousness programmes on COVID-19 and cautionary actions to be taken have been conducted in many villages. Farmers predict many challenges as farmers and farm labourers set out to reconstruct their livelihoods. Migrant labourers who decide to return will not be able to go back instantly. In such a situation there is a need for both help and reintegration actions, to help the affected and elite the filaments again, overcome the loss sustained and rebuild their lives. Active procedures by the state with caring views begin working in an additional release; whoever is needy gets the necessary support and is not left hungry due to hurdles like lack of ration card and cash. So for that there should be increase the amount under the PM Kisan Nidhi from the present amount 6,000/- to 15,000/- measures to control indicting of excessive interest by private sector on term loans and overdraft agriculture accounts, loss acquired due to damage the crops like flowers, fruits, vegetables and include harvest of crops on farmers' fields by labour.

#### Conclusions

Observing an online survey and news lockdown had a major impact on the farmer, reducing the yield and income of farmers. Lockdown has been very impacted on farmers' mind stability. The observations from various parts of the source; show that reduced income has also affected the health and mentality of farmers. This review article tries to explain the brief analysis of the impact of COVID-19 lockdown on agriculture.

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