

Shri Baneshwar Shikshan Sansthas

**Arts, Science and Commerce College,
Burhannagar, Ahmednagar 414002**



3.3. Research Publication and Awards

3.3.1. Number of research papers published per teacher in the Journals notified on UGC care list during the last five years.



शासन मान्यता क्र.एन.जी.सी. 2003/ न म वि (1/03) म शि - 3

Estd. 2004

College Code - 752

Center Code - 167

SHRI BANESHWAR SHIKSHAN SANSTHA'S

Arts, Science and Commerce College

Burhannagar, Ahmednagar. Ph.: (0241) 2321667

E-mail: shribaneshwarcollege@gmail.com Web - http://baneshwarcollege.in

Ref No.

Date : / /202

Principal

Dr. Shridhar Shankar Jadhav

M.Sc., M.Phil., Ph.D.

(Professor In Physical Chemistry)

Declaration

This is to declare that the information, reports, true copies of the supporting documents, numerical data, etc. submitted/presented in this file is verified by Internal Quality Assurance Cell (IQAC) and is correct as per the records. This declaration is for the purpose of NAAC accreditation of HEI for 1st Cycle period 2017-2018 to 2021-2022

Date : 30/12/2022

Place : Burhannagar

Dr. R.H. Shaikh

IQAC Coordinator

Co-ordinator

Internal Quality Assurance Cell
Shri Baneshwar Shikshan Sansthas
Arts, Science and Commerce College
Burhannagar, Ahmednagar



Dr. S.S. Jadhav

Principal
PRINCIPAL

Arts, Science and Commerce College
Burhannagar, Ahmednagar

Index of Research Paper Published in Journals

3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years									
Sr.No.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital	Link to article / paper / abstract of the article	Is it listed in UGC Care list
1	Cyanobacterial Diversity And Abundance In Maize Field of Ahmednagar District(M.S,India)	Dr. Waigh S.G.	Botany	International journal of Researches In Biosciences& Agricultural Technology	2021	2347-517X	Yes	https://jirbat.in/searchpastissue	Yes
2	Novel Studies on Anti Apoptosis inhibitors as a Preventive Measure for Cancer	Dr. Waigh S.G.	Botany	International journal of Research and Analytical Reviews	2020	E- ISSN 2348-1269, P-ISSN 2349-5138	Yes	http://jirar.org/viewfull.php?&p_id=JRAR1ESP035	Yes
3	Alge Flora of Maize Field Soil in Ahmednagar District of Maharashtra	Dr. Waigh S.G.	Botany	Think India Journal	2019	0971-1260-Vol-22	Yes	http://thinkindiaquarterly.org/index.php/think-india/article/view/17529	Yes
4	Diversity of Cyanobacteria in the cultivated fields of Ahmednagar District(M.S, Jindia	Dr. Waigh S.G.	Botany	Bioscience Discovery Journal	2019	E- ISSN 2348-1269, P-ISSN 2349-5138	Yes	http://biosciencediscovery.com	Yes
5	Diversity of Soil Algae In Wheat Field of Ahmednagar District(M.S.)	Dr. Waigh S.G.	Botany	An International Journal of Indian Journal of Applied Research	2017	2249-555X	Yes	https://www.worldwidejournals.com/indian-journal-of-applied-research-IJAR/article/diversity-of-soil-algae-in-wheat-field-of-ahmednagar-district-in-s/MTQ/MjU=P1s=1&b1=25&k=7	Yes
6	Soil Algaeof Onion Field of Ahmednagar District	Dr. Waigh S.G.	Botany	National conference on Advances in Life Science and Human Welfare	2017	978-93-58426-28-5	Yes		Yes
7	Role of Psychology In Sports: Anxiety,Stress and Intelligence	Dr.M.N.Punde	Physical Education	Global Online Electronic International Interdisciplinary Research Journal	2017	2278-5639	Yes	www.goetirj.com	Yes
8	Sports and Science	Dr.M.N.Punde	Physical Education	International Journal of Multidisciplinary Research(IJMR)	2017	2277-9302	Yes		Yes
9	Violation of Women Human Rights in Maharashtra	Dr. V.M.Jadhav	Sociology	International Research Journal Of Humanities And Environmental Issues	2017	2277-9329	Yes		Yes
10	Role of the Maharashtra state in the culture	Dr.V.M.Jadhav	Sociology	International Journal of Multidisciplinary Research(IJMR)	2017	2277-9302	Yes		Yes
11	Green Computing	Asst.Prof.V.A.Kale	Computer Science	International Research Journal Of Humanities And Environmental Issues	2017	2277-9329	Yes		Yes
12	Soil Algaeof Sugar Care Field in Ahmednagar District	Dr. Waigh S.G.	Botany	National Journal of Floura and Fauna	2017	0971-6920	Yes		Yes
13	Ahiyabai Holkarani bhllia Adivasi jamatisathi kelele prashaskiy kary	Dr. Sonwane S.R.	History	Power of knowledge	2017	ISSN 2320-4494	Yes	www.powerofknowledge.com	Yes

CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

International Journal of Researches in Biosciences , Agriculture & ...

<https://ijrbat.in/searchpastissue>

Dr. Ashish Lambat +91 9372727927, Dr. Atul Bobdey +91-9423654272

Dr. Vijay Wadhai +91-9422137698

✉ lambatashish@gmail.com

swati G. Wagh



**International Journal of Researches In
Biosciences & Agriculture Technology**

(ISSN No.2347-517X (Online))

(Open Access, Online, Peer Reviewed Four Monthly Journal)

Published By VMS Research Foundation, Nagpur, M. S., India

Search Results

CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE
FIELD OF AHMEDNAGAR DISTRICT (M.S.) INDIA

Authors : Swati G. Wagh and Milind J. Jadhav

Page Nos : 48-53

Date of Online: 30 17, June.2021

Abstract

Download

DOI Paper : Not Available

Date of Online: 30 17, June.2021

Current Issue



CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

I J R B A T, Issue (Special-17), June 2021: 48-53
A Double-Blind Peer Reviewed & Refereed Journal

OPEN ACCESS
e-ISSN 2347 – 517X
Original Article

INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND TECHNOLOGY
© www.ijrbat.in

CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT (M.S.) INDIA

***Swati G. Wagh¹ and Milind J. Jadhav²**

1. *Department of Botany, Shri. Baneshwar Arts, Commerce and Science College, Burhannagar, Tal. & Dist. – Ahmednagar, Pin code- 414002. (M. S.) India.
Email- swati.wagh375@gmail.com

2. Department of Botany, Sir Sayyed College, Roshan Gate area, Aurangabad, Pin code- 413001. (M.S.) India.
Email- dr.mjadhav@gmail.com

ABSTRACT:
Cyanobacteria is a diverse group of plant kingdom. They found in variety of terrestrial habitat. Cyanobacteria is one of the significant components of soil microflora. They fixes atmospheric nitrogen and increases fertility of soil. Majority of the species of cyanobacteria helps in retention of soil moisture and provides germination ground for the seeds of flowering plants. The cultivated field ecosystem provides favourable ground for the growth and development of Cyanobacteria. Present paper deals with the cyanobacterial flora of Maize (*Zea mays* L.) field, located in Shrirampur tahsil area of Ahmednagar district of Maharashtra. Cyanobacterial samples were collected at weekly intervals from moist soil surface of selected field. The work was carried out from July 2017 to October 2017. Bold's basal medium was also to culture cyanobacteria from soil of Maize field. Collected and cultured cyanobacterial forms were observed and identified. A total of 32 species under 15 genera were identified and recorded. Cyanobacterial taxa such as *Aphanothece nidulans*, *Myxosarcina burmensis*, *Oscillatoria obscura*, *Oscillatoria subbrevis*, *Microcoleus acutissimus* and *Nostoc punctiformae* were found dominant. Selected physico-chemical parameters shows positive correlation with diversity and abundance of cyanobacterial flora.

Keywords: Cyanobacteria, Maize field, Physico-chemical parameters.

INTRODUCTION:
Cyanobacteria is a large and diverse group of plant Kingdom, resembling gram negative bacteria in cellular organization and green plants in oxygenic photosynthesis. They found in almost every terrestrial and aquatic habitats. They occupy a variety of terrestrial habitats including soil, rocks, sand, walls and caves. Soil habitats are the most important ecosystems for Cyanobacteria. Soil Cyanobacteria performs important functions for agro-ecosystems. They contribute in formation of soil and stabilization of mature soil (Meeting, 1981). They promote aggregation of soil particles and increases water retention capacity of soil. The most important effect of cyanobacteria in soil on agriculture are the input of carbon and nitrogen (Shields and Durrell, 1964). Cyanobacteria fixes atmospheric nitrogen and increases fertility of soil (Singh, 1961; Santra 1993; Goyal, 1997). The agronomic importance of cyanobacteria was recognized in 1938 by De while studying nitrogen fixation in rice field.

Arts, Commerce & Science College Sonai, Dist. Ahmednagar (MS) India. [ICCFES-2021]

Page 48

Arts, Science and Commerce College
Burhannagar, Ahmednagar
ID No.
AN/ASC/
074/2004

CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

I J R B A T, Issue (Special-17), June 2021: 48-53

A Double-Blind Peer Reviewed & Refereed Journal



e-ISSN 2347 – 517X

Original Article

The cultivated field ecosystem is the favourable environment for the growth and development of cyanobacteria with respect to their requirements of light, water, temperature and nutrient availability. In India, diversity and distribution of cyanobacteria in different crop fields have been studied in detail by Bongale and Bharti (1980), Prasad and Mehrotra (1980), Sirdeshpande and Goyal (1981), Chatterjee and Chatterjee (1983), Chaporkar and Gangawane (1984), Kolte and Goyal (1985), Patil and Chaugule (2004), Auti and Pingle (2007), Jadhav (2010), Jadhav and Nimbhore (2015), and Wagh and Jadhav (2019). Present paper deals with the studies on diversity and abundance of cyanobacteria in soil of Maize (*Zea mays* L.) field in relation to physico-chemical analysis of soil.

MATERIALS AND METHODS:

A Maize field located in Shirampur tehsil area of Ahmednagar district of Maharashtra has been selected for collection of cyanobacterial samples. Cyanobacterial samples which are grown on moist soil surface of Maize field were collected at weekly intervals from July 2017 to October 2017. These samples were collected in sterilized collection bottles. Collected samples were brought to the laboratory for observation and identification. Sun dried soil samples were examined for their cyanobacterial components by petriplates culture method. 1 gm of pulverized soil poured and spread uniformly into the petriplates containing agarized Bold's basal medium (Bold, 1942). Liquid nutrient medium was poured into the plates at the time of keeping those for incubation and frequently supplemented with the same. The petriplates

were incubated under tubelights having 1000 to 1500 lux capacity in the algal culture chamber. Petriplates were checked for the growth of cyanobacterial colonies. After sufficient growth, colonies were picked up for identification. Collected and cultured cyanobacterial samples were observed under research microscope and identified with the help of standard literature.

In order to know the fertility status of selected maize field, physico-chemical analysis of soil was performed by selecting certain physico-chemical parameters such as soil texture, water holding capacity, electrical conductivity, pH, organic carbon, available nitrogen, available phosphorus, available potassium, total magnesium, total calcium, total sodium, copper, iron, zinc and manganese (Trivedi and Goel, 1986).

RESULTS AND DISCUSSION:

A total of 32 species under 15 genera of cyanobacteria were identified and recorded (Table 1). Bongale and Barati (1980), Sirdeshpande and Goyal (1981), Chatterjee and Chatterjee (1983), Chaporkar and Gangawane (1984), Auti and Pingle (2007), Jadhav (2010), and Jadhav and Nimbhore (2015) and Wagh and Jadhav (2019) extensively studied diversity and abundance of cyanobacteria from rice, wheat, sorghum, bajra, gram, sugarcane, cotton, fenugreek and onion fields. During present study Cyanobacterial taxa such as *Aphanothece nidulans*, *Myxosarcina burmensis*, *Oscillatoria obscura*, *Oscillatoria subbrevis*, *Microcoleus acutissimus* and *Nostoc punctiformae* were found dominant. Wagh and Jadhav (2019) recorded similar kind of

Arts, Commerce & Science College Sonai, Dist. Ahmednagar, (MS) India. [ICCFEFS-2021]



CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

I J R B A T, Issue (Special-17), June 2021: 48-53

A Double-Blind Peer Reviewed & Refereed Journal



e-ISSN 2347 – 517X

Original Article

observations from sugarcane and onion fields. Prasad (2005) observed dominance of *Chlorococcus*, *Gloeothece*, *Phormidium*, *Oscillatoria* and *Nostoc* from wheat field of Nepal. During present study *Gloeothece palea*, *Microcoleus lacustris*, *Nostoc muscorum*, *Plectonema gracillimum* and *Scytonema bohneri* were also found in maximum frequency. Heterocystous as well as non heterocystous cyanobacterial forms such as *Nostoc commune*, *Nostoc punctiformae*, *Nostoc muscorum*, *Scytonema bohneri* and *Scytonema schmidtii* were recorded. Unicellular, colonial and filamentous cyanobacterial forms were recorded during present study.

Data pertaining to physico-chemical analysis of maize field soil is given in Table 2. The soil is clay with medium water holding capacity which is suitable for colonization of cyanobacteria. Electrical conductivity is moderate which is good for growth of cyanobacteria. pH of soil is moderate alkaline which favours growth of cyanobacteria. Organic carbon content of soil was recorded very low. Available nitrogen was found low whereas phosphorus and potassium were high and very high respectively. Nitrogen, phosphorus and potassium plays key role in abundance of cyanobacteria. Magnesium and calcium was found high. Amount of sodium was moderate whereas copper was found in sufficient amount. Iron was low were as zinc and manganese were found sufficient in maize field soil. Overall fertility status of maize field soil reveals that soil is fertile and supports growth of cyanobacteria which are found abundant and in diverse form.

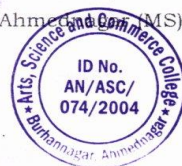
CONCLUSION:

Hence, it is concluded that Maize field ecosystem provides a favorable environment for growth and development of cyanobacteria. Cyanobacterial flora of maize field is rich and it is found in diverse form. Overall fertility status of maize field is fertile which supports luxuriant growth of cyanobacteria. A positive correlation among cyanobacterial flora and physico-chemical parameters of soil was observed. Cyanobacteria plays a significant and sustainable role in agroecosystem by increasing fertility of soil. They also contribute in soil formation and stabilization of mature soil. Cyanobacteria help in retention of soil moisture. Cyanobacteria are one of the important components of soil microflora and plays a crucial role in sustainable environment by enriching the soil.

REFERENCES:

- Auti, B. K. and Pingle, S. D. 2007. The Myxophyceae of the Arable lands from Ahmednagar district (M.S.) *Ad. Plant Sci.* 20(II): 387-389.
- Bongale, U. D. and Bharati, S. G. 1980. On the algal flora of cultivated soils of Karnataka state, India *Phykos.* 19(1): 95-109.
- Chaporkar, C. B. and Gangawane, L. V. 1984. Blue green algae of some cultivated soils of Marathwada, Maharashtra. *Phykos.* 23: 55-58.
- Chatterjee, M. and Chatterjee, S. P. 1983. Nitrogen fixing cyanobacteria from the paddey field soil of Burdwan district. *Phykos.* 22: 64-66.

Arts, Commerce & Science College Sonai, Dist. Ahmednagar (M.S) India. [ICCFES-2021]



CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

I J R B A T, Issue (Special-17), June 2021: 48-53

A Double-Blind Peer Reviewed & Refereed Journal

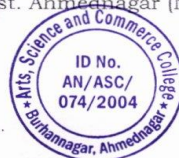


e-ISSN 2347 – 517X

Original Article

- De, P. K. 1983. The role of blue-green algae in nitrogen fixation in rice fields *Proc. R. Soc. London*. 127(B): 121-139.
- Goyal, S. K. 1997. Algae and the soil environment. *Phykos*. 36: 1-13.
- Jadhav, Milind 2010. Algal diversity of Sorghum field. *The Biosphere*. 2(1): 89-90.
- Jadhav, M. J. and Nimbhore, B. S. 2015. Cyanobacterial diversity and distribution in the cultivated fields of Aurangabad. Proc. Nat. conf. on Frontiers in plant diseases and its control for agricultural development. Editor Dr. D. P. Gurad and Dr. U.T. Kesare. Biochemical science publisher. 86-93.
- Kolte, S. O. and Goyal, S. A. 1985. Distributional pattern of blue green algae in rice field soils of Vidarabha region of Maharashtra state. *Phykos*. 24: 156-162.
- Metting, B. 1981. The Systematics and ecology of soil algae. *Bot. Rev.* 47(2): 196-312.
- Patil, S. R. and Chougule, B. B. 2004. Species diversity in paddey field blue green algae of the western Maharashtra. *Abs. Nat. Symp. Bist and Biodiversity of fresh water algae*, CAS, University of Madras: 30.
- Prasad, B. N. and Mehoratra, P. K. 1980. Blue green algae of paddey fields of Utter Pradesh. *Phykos*. 19(1): 121-128.
- Prasad, V. 2005. Algal and Cyanobacterial distribution in the wheat fields of Bara, Parsa and Rauth at Nepal. *Int. J. Mendel*. 22(3-4): 77-78.
- Santra, S. C. 1983. Biology of rice field blue-green algae. *Daya Publishing House*, New Delhi. 184pp.
- Shields, L. M. and Durrell, L. W. 1964. Algae in relation to soil fertility. *Bot. Rev.* 30: 92-128.
- Singh, R.N. 1961. Role of blue green algae in nitrogen economy of Indian agriculture, 175pp. Indian council of Agricultural research, New Delhi.
- Sirdesphande, J. S. and Goyal, S. K. 1981. Distribution pattern of blue green algae in rice field soils of kokan region of Maharashtra state. *Phykos*. 20(1-2): 102-106.
- Tridevi, R. K. Goel P. K. and Trisal, C. L. 1998. Practical methods in ecology and environmental science. *Enviro media Publications, Karad (India)*: 1-340.
- Wagh, S. G. and Jadhav, M. J. 2019. Diversity of cyanobacteria in the cultivated fields of Ahmednagar districts (M.S.) India. *Biosciences Discovery* 10 (3): 122-125

Arts, Commerce & Science College Sonai, Dist. Ahmednagar (MS) India. [ICCCEFS-2021]



CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

IJRBA T, Issue (Special-17), June 2021: 48-53
A Double-Blind Peer Reviewed & Refereed Journal



e-ISSN 2347 – 517X

Original Article

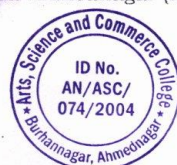
Table 1: Cyanobacterial taxa recorded from soil of Maize field.

Sr. No.	Name of Cyanobacteria	Frequency of Occurrence
1	<i>Chroococcus minutus</i>	++
2	<i>Chroococcus turgidus</i>	+
3	<i>Gloeocapsa rupestris</i>	+
4	<i>Gloeothece palea</i>	+++
5	<i>Aphanothece nidulans</i>	++++
6	<i>Aphanothece saxicola</i>	++
7	<i>Chlorogloea microcestoides</i>	++
8	<i>Myxosarcina burmensis</i>	++++
9	<i>Arthrospira plantensis</i>	+
10	<i>Spirulina subtilissima</i>	++
11	<i>Oscillatoria acuta</i>	++
12	<i>Oscillatoria obscura</i>	++++
13	<i>Oscillatoria subbrevis</i>	++++
14	<i>Phormidium abronema</i>	+
15	<i>Phormidium angustissium</i>	+
16	<i>Phormidium bohneri</i>	+
17	<i>Phormidium corium</i>	+
18	<i>Phormidium jenkelianum</i>	++
19	<i>Phormidium molle</i>	++
20	<i>Phormidium usterii</i>	+
21	<i>Lyngbya hieronymusii</i>	+
22	<i>Microcoleus acutissimus</i>	++++
23	<i>Microcoleus lacustris</i>	+++
24	<i>Microcoleus sociatus</i>	++
25	<i>Nostoc commune</i>	++
26	<i>Nostoc punctiforme</i>	++++
27	<i>Nostoc muscorum</i>	+++
28	<i>Plectonema gracillimum</i>	+++
29	<i>Plectonema putale</i>	+
30	<i>Plectonema radiosum</i>	+
31	<i>Scytonema bohneri</i>	+++
32	<i>Scytonema schmidtii</i>	++

+ = Minimum, ++ = Moderate, +++ = Maximum, ++++ = Dominant.

Arts, Commerce & Science College Sonai, Dist. Ahmednagar (MS) India.

[ICCFES-2021]



CYNOBACTERIAL DIVERSITY AND ABUNDANCE IN MAIZE FIELD OF AHMEDNAGAR DISTRICT INDIA

I J R B A T, Issue (Special-17), June 2021: 48-53

A Double-Blind Peer Reviewed & Refereed Journal



e-ISSN 2347 – 517X

Original Article

Table 2: Physico-chemical analysis of Maize field Soil.

Sr. No.	Physicochemical parameter	Observation	Fertility Status
1.	Soil Texture	1.00	Clay
2.	Water Holding Capacity (%)	54.83 %	Medium
3.	Conductivity (M mhos/cm)	0.68	Moderate
4.	pH	7.93	Moderate Alkali
5.	Organic Carbon (%)	0.18 %	Very Low
6.	Available Nitrogen (Kg / hect.)	162.22	Low
7.	Available Phosphorus (Kg / hect.)	32.99	High
8.	Available Potassium (Kg / hect.)	311.09	Very High
9.	Total Magnesium (%)	14.35 %	High
10.	Total Calcium (%)	24.94 %	High
11.	Total Sodium (ppm)	6.02	Moderate
12.	Copper (ppm)	3.86	Sufficient
13.	Iron (ppm)	0.42	Low
14.	Zinc (%)	1.42 %	Sufficient
15.	Manganese (%)	9.75 %	Sufficient

Arts, Commerce & Science College Sonai, Dist. Ahmednagar (MS) India. [ICCFEFS-2021]



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

IJRAR(ISSN 2348 -1269, Print ISSN 2349-5138) | UGC CARE Jo... https://ijrar.org/viewfull.php?&p_id=IJRAR1BSP035

How start New Journal & software (<http://ijrar.org/How to start new journal & journal supporting software.php>)
Book & Thesis Publications (<http://ijrar.org/bookpub.php>) IJRAR is Peer Review Refereed Open access
Monthly, Multidisciplinary, Multilanguage Online, Print Journal



<https://www.ijrar.org>

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR.ORG)

International Peer Reviewed & Refereed Journal, Open Access Journal

ISSN Approved Journal No: E-ISSN 2348-1269, P- ISSN 2349-5138
Journal ESTD Year: 2014

Call For Paper - Volume 10 | Issue 1 | Month- January 2023 (<https://ijrar.org/submitonline.php>)

Read all new guidelines related publication before submission or publication. Scholarly open access , Peer-reviewed, and Refereed, Impact Factor: 7.17, AI-Powered Research Tool , Multidisciplinary, Monthly, Indexing in all major database & Metadata, Citation Generator, Digital Object Identifier(DOI), UGC Approved Journal No: 43602(19) ()

[Submit Paper](#) (<https://ijrar.org/submitonline.php>)

[Login to Author Home](#) (<http://www.ijrar.org/Authorhome/alogin.php>)

[IJRAR.COM Repository](#) (<https://ijrar.org/archivelist.php>)

[Contact Us](#) (<https://ijrar.org/Communication%20Guidelines.pdf>)
[Click Here](#)
[Communication Guidelines](#)
[WhatsApp](#)
[Contact](#)
[Click Here](#)

(Communication Guidelines.pdf) ([https://wa.me/916354477117/?text=Hi IJRAR](https://wa.me/916354477117/?text=Hi%20IJRAR))



Published Paper Details:

1 of 17 07-01-2023, 09:44 am

NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

IJRAR(ISSN 2348 –1269, Print ISSN 2349-5138) | UGC CARE Jo...

https://ijrar.org/viewfull.php?&p_id=IJRAR1BSP035

Paper Title (papers/IJRAR1BSP035.pdf)

NOVEL STUDIES ON ANTI APOPTOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

(papers/IJRAR1BSP035.pdf) (papers/IJRAR1BSP035.pdf) (download1.php?file=IJRAR1BSP035.pdf)

[Click Here to Download Article \(download.php?file=IJRAR1BSP035.pdf\)](download.php?file=IJRAR1BSP035.pdf)

Published Paper PDF : - <http://www.ijrar.org/papers/IJRAR1BSP035> (<http://www.ijrar.org/papers/IJRAR1BSP035.pdf>)

Published Paper URL: : - http://ijrar.org/viewfull.php?&p_id=IJRAR1BSP035 (http://ijrar.org/viewfull.php?&p_id=IJRAR1BSP035)

Published Paper PDF Download: - <download.php?file=IJRAR1BSP035> (<download.php?file=IJRAR1BSP035.pdf>)

Authors

Wagh Jyoti Gorakh, Wagh Swati G., Agale Krushna B.

Keywords

c-FLIP, Amygdaline, homology modeling, Cassava root.

Abstract

Cancer is one of the leading diseases that is affecting large number of population in the world. Apoptosis represents a major causative factor in the development and progression of cancer. The challenge currently facing is to translate information gained about mechanisms of aberrant cell death control in tumors into new therapeutic opportunities. The path for accomplishing this has been illuminated by basic research. Damage in the Apoptotic pathway may leads to cause of cancer. Apoptotic signaling pathway which acts a novel drug target for cancer. Cellular FLICE-like inhibitory protein(c-FLIP) is a catalytically inactive Caspase-8 homologue. Laetrile, commonly known as Vitamin B-17 or Amygdaline, is a natural chemotherapeutic agent found in over 1,200 plants. According to Dr. Krebs, we need a minimum of 100 mg/day of vitamin B-17 too nearly guarantee a cancer free life. Foods that contain vitamin B-17 are apricots seeds, Cassava root, Sorghum etc. In the present study we have considered c-Flip protein for homology modeling and further ligand based studies to find out best c-flip inhibitors. This protein is not yet studied because its structure is for not available in PDB so we modeled it and then docked it for finding the compound. Further we searched it in a natural source. After finding the compound same feature like Amygdaline we selected its natural source Cassava and Sorghum then processed it for extracting the same.

Cite this article

Wagh Jyoti Gorakh, Wagh Swati G., Agale Krushna B., "NOVEL STUDIES ON ANTI APOPTOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER", **IJRAR - International Journal of Research and Analytical Reviews (IJRAR)**, E-ISSN 2348-1269, P- ISSN 2349-5138, Volume.7, Issue 1, Page No pp.216-226, March 2020, Available at: <http://www.ijrar.org/IJRAR1BSP035.pdf> (papers/IJRAR1BSP035.pdf) (papers/IJRAR1BSP035.pdf) [Click Here](#)

IJRAR's Publication Details

Unique Identification Number - IJRAR1BSP035

Paper ID - 222440

Author type - Indian Author

Page Number(s) - 216-226

Published in - Volume 7 | Issue 1 | March 2020

DOI (Digital Object Identifier) -

WhatsApp
Contact
[Click Here](#)



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1

www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

Novel studies on Anti Apoptosis inhibitors as a Preventive Measure for Cancer.

Wagh Jyoti Gorakh *, Wagh Swati G. , Agale Krushna B.

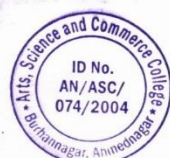
MES College of Pharmacy, Sonai, Tal:Newasa, Dist. Ahmednagar, 414105.

Dr.Babasaheb Ambedker Marathwada University,Aurangabad(MS).

Abstract:

Cancer is one of the leading diseases that is affecting large number of population in the world. Apoptosis represents a major causative factor in the development and progression of cancer. The challenge currently facing is to translate information gained about mechanisms of aberrant cell death control in tumors into new therapeutic opportunities. The path for accomplishing this has been illuminated by basic research. Damage in the Apoptotic pathway may leads to cause of cancer. Apoptotic signaling pathway which acts a novel drug target for cancer. Cellular FLICE-like inhibitory protein(c-FLIP) is a catalytically inactive Caspase-8 homologue. Laetrile, commonly known as Vitamin B-17 or Amygdaline, is a natural chemotherapeutic agent found in over 1,200 plants. According to Dr. Krebs, we need a minimum of 100 mg/day of vitamin B-17 too nearly guarantee a cancer free life. Foods that contain vitamin B-17 are apricots seeds, Cassava root, Sorghum etc. In the present study we have considered c-Flip protein for homology modeling and further ligand based studies to find out best c-flip inhibitors. This protein is not yet studied because its structure is for not available in PDB so we modeled it and then docked it for finding the compound. Further we searched it in a natural source. After finding the compound same feature like Amygdaline we selected its natural source Cassava and Sorghum then processed it for extracting the same.

Key words: c-FLIP, Amygdaline, homology modeling, Cassava root.



IJRARIBSP035

International Journal of Research and Analytical Reviews (IJRAR) www.ijrar.org | 216

NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1

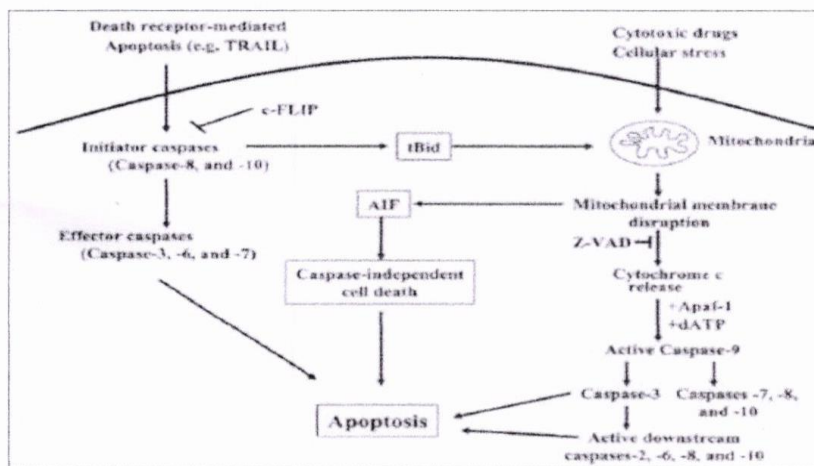
www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

Introduction:

Cancer is one of the leading diseases that is affecting large number of population in the world. Damage in the Apoptotic pathway may leads to the continuous growth of the cells which in turn leads to cause of cancer. Now-a-days various studies have been done on the apoptotic signaling pathway which acts a novel drug target for breast cancer. Apoptosis of the cells is mainly caused in two different pathways: death receptor-

induced pathway and mitochondria- mediated pathway [1].

In the Death receptor induced pathway death ligand binds to the death receptor, this helps in the formation of death inducing signaling complex followed by cleavage of Caspase-8 activation. Tumor necrosis factor –related apoptosis-inducing ligand (TRAIL) is attaining a high attention due to its activity in apoptosis pathway, Present mutated TRAIL's are being used as the anti- apoptotic agents which are in their phase trails[2,3].



Mitochondrial Death Pathway



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138

www.ijrar.org (E-ISSN 2348-1269, P-

Cellular FLICE-like inhibitory protein(c-FLIP) is a catalytically inactive Caspase-8 homologue, Death receptor – mediated apoptosis is mainly inhibited by c- FLIP by preventing the Caspase-8 binding with death inducing signaling complex [4,5].c-FLIP contains various variants

,among all the variants c-FLIPL and c-FLIPs which are well characterized. These 2 variants contain two death effectors domains (DED) [6-9].Due to the increase in resistance to apoptosis which is mediated by TRAIL and FAS leads to the over expression of c-FLIP [10]. In c-FLIP two proteins short form and long form (FLIPL and c-FLIPs) plays a key role in the death receptor mediated apoptosis by binding with the DISC and inhibiting the Caspase-8, Caspase-10 activation [11]. Several studies have proved that TRAIL and FAS mediated apoptosis can be sensitized by down- regulating the c-FLIP activity [10].Various studies have been showed that down- regulation of c-FLIP can be done by various chemical and natural compounds which can inhibit or regulate the activity of the protein molecule.

It has been studied that various synthetic and natural compounds are showing activity

against the c-FLIP protein which is one of the most studied drug target in the death receptor mediated apoptosis pathway. It has also been studied that some of the natural available plant extracts not only inhibit the c-FLIP function but they in turn can inhibit the growth of certain type of cancer cells .

The Aim of this research work is to study the natural cflip inhibitors and its processing method for extracting the required entity. In this study we have considered c-Flip protein for homology modeling and further ligand based studies to find out best c-flip inhibitors. Further we searched it in a natural source. After finding the compound same feature like Amygdalin we selected its natural source Cassava and Sorghum then processed it for extracting the same.



IJRAR18SP035

International Journal of Research and Analytical Reviews (IJRAR) www.ijrar.org | 218

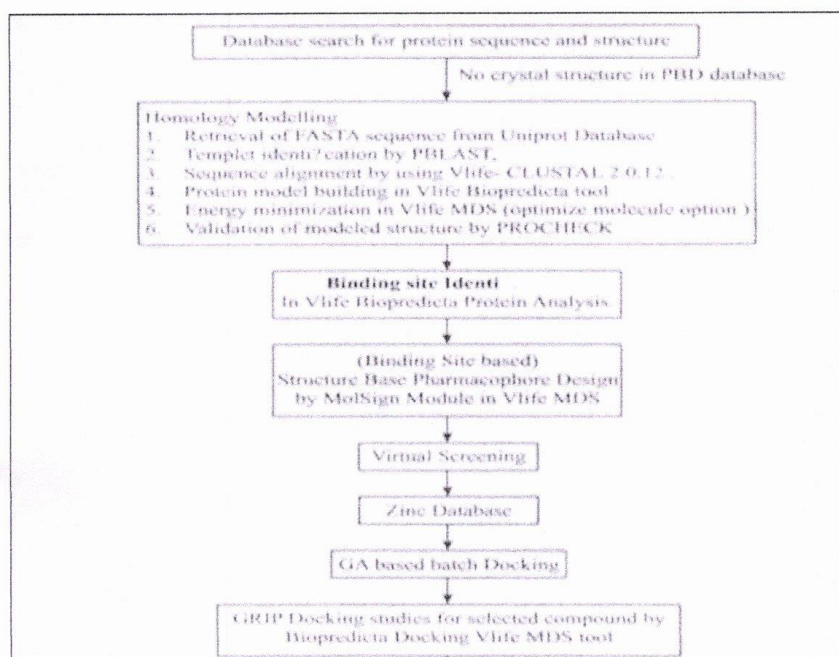
NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138)

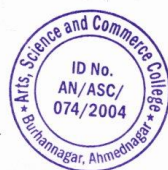
www.ijrar.org (E-ISSN 2348-1269, P-

Methodology:

1. Flow Chart of Protocol Followed for Cflip Protein Insilico Study



2. Selection of Natural Plant product from structural output.
3. Extraction of desired anti apoptosis chemical entities from natural sources.
4. Formation of nutritional food products from selected natural sources.



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138)

www.ijrar.org (E-ISSN 2348-1269, P-

1. Cflip Protein Insilico Study

Protein molecule selection is done using the swissprot database. In the swissprot database availability of 3D structure is verified using the Swissprot database. **Template selection and Sequence alignment:** Structure similar to the protein is selected using the NCBI Blast algorithm. In which highest similarity structure is selected. The 3D structure of the protein and the fasta format were collected. **Homology modeling and model verification of protein:** Using the template selected and the alignment file structure of the protein molecule is modeled in the Discovery studio software using Build Homology model protocol in the parameters file. once the structure is modeled the structure of the protein is verified using the various model verification servers like Procheck, prosa,

RMSD. Protein preparation and energy minimization: Modeled protein molecule is then prepared by cleaning and applying the CHARMM forcefields to the protein molecule. The energy of the prepared protein molecule is minimized using various algorithms like steepest descent and conjugate gradient methods in which the potential energy of the protein molecule is decreased [25-26]. **Ligand sketching and preparation:** All the ligand molecules were

sketched using the chemsketch software and then the preparation of ligand molecules is done by prepare ligands protocol in discovery studio.

Results and discussion:

Selection of protein molecule:

Protein molecule is selected from Swissprot database with Accession number: O15519. The FASTA format of the protein sequence is taken from 1-376 amino acids which contain DED1 and DED2 functional domains and the FASTA format is submitted for protein blast to obtain the structure which is similar to the protein sequence.

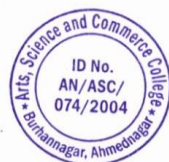
Selection of template:

Selection of template is done using Pblast search 3H11 is obtained as the template sequence with an identity of 99%. 3H11 is a Zymogene Caspase-8: c-Flip protease domain complex. The structure of the template is downloaded from the PDB database and loaded into Discovery studio.

Sequence Alignment:

The protein sequence and the template sequences were aligned in the Discovery Studio software and the alignment is done with an sequence identity of 33.9%

Modeling: Homology modeling of the protein molecule is done using Discovery studio software using build homology models in the protocols



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138)

www.ijrar.org (E-ISSN 2348-1269, P-

Select: All None Selected 0

Alignments

Description	Max score	Total score	Query cover	E value	Ident	Accession
Chain A, Zymogen Caspase-8: Fflp Protease Domain Complex: pdb 3HI3 Chain A, C-Flip Erc	363	363	44%	3e-120	99%	2H11_A
Chain A, Crystal Structure Of Mc159 Reveals Molecular Mechanism Of Dna Assembly And Ylip Inb	85.9	85.9	61%	4e-19	30%	2BR2_A
Chain A, Crystal Structure Of A Viral E1p Mc159	82.4	82.4	45%	3e-10	32%	2F32_A
Chain A, Crystal Structure Of Mc159 Reveals Molecular Mechanism Of Dna Assembly And Ylip Inb	82.4	82.4	40%	4e-10	32%	2BR2_A
Chain A, Crystal Structure Of A Ylip-Hexamer Complex: Insights Into Viral Activation Of The Ikk Sig	75.1	75.1	44%	1e-15	34%	3LJ1_A
Chain B, Crystal Structure Of The Caspase-8:25 Complex: pdb 2FUR Chain B, Alternates P35	75.1	75.1	35%	3e-15	33%	1L4L_B
Chain A, Solution Structure Of The Catalytic Domain Of Procaspase-8	75.1	75.1	35%	3e-15	33%	2KJ2_A
Chain A, Caspase-3 Specific Unnatural Amino Acid-based Peptides	75.1	75.1	35%	4e-15	33%	4A27_A

Fig1: Showing the BLAST results in NCBI server where 3HI1 protein molecules 'A' chain is showing the highest identity with the modeled protein structure.

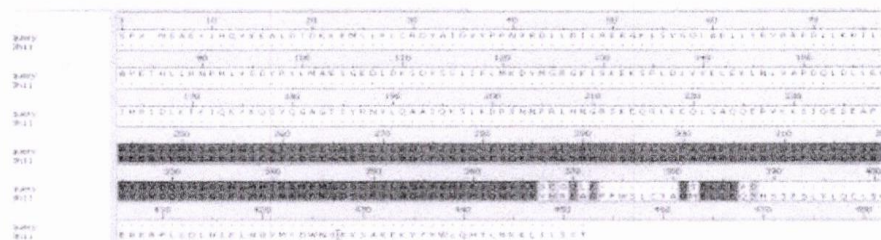


Fig2: Showing the sequence alignment of C-FLIP and 3HI1 in Discovery studio software where the shaded regions in figure represent the similar amino acids in the two sequences

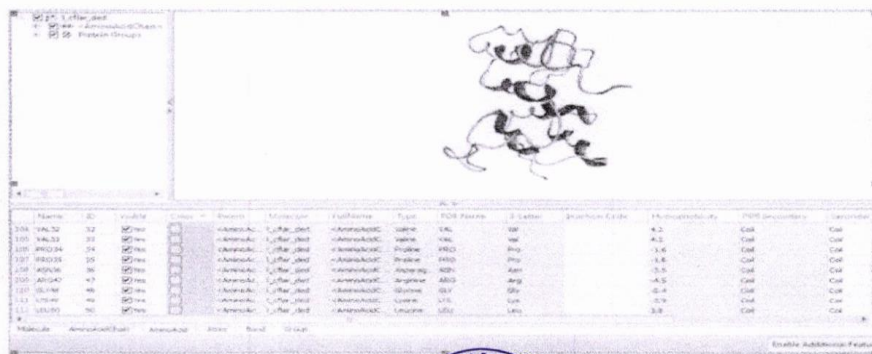


Fig3: Showing the modeled structure of the protein in discovery studio in solid ribbon format.



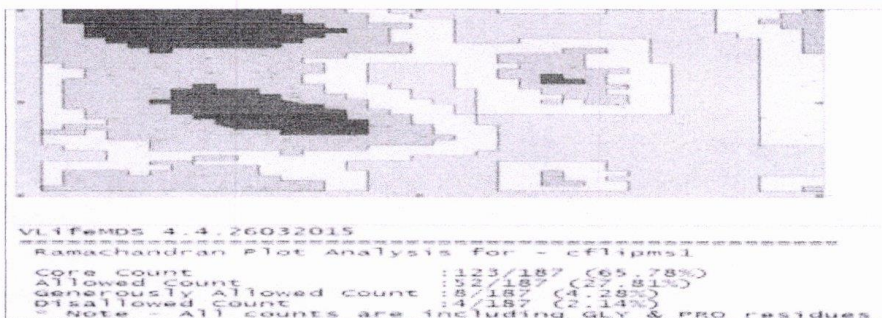
NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138)

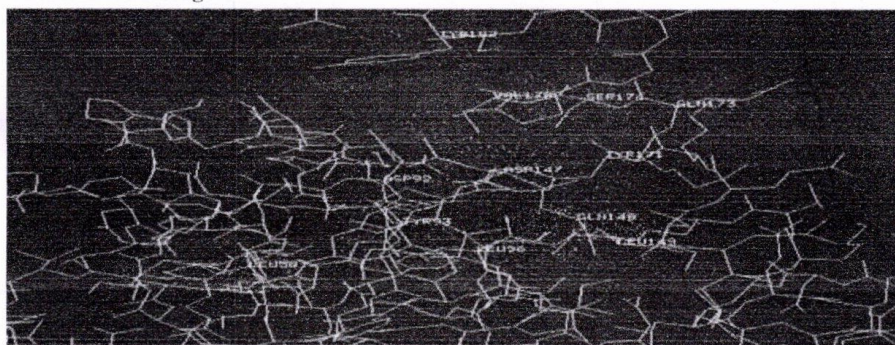
www.ijrar.org (E-ISSN 2348-1269, P-

Model Verification:

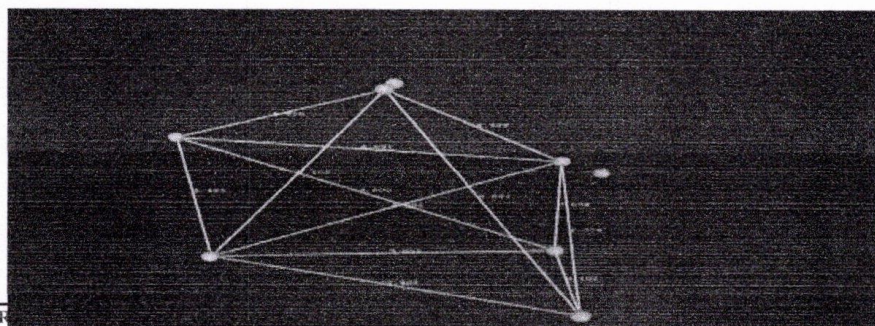
Model verification of the protein molecule is done using the various servers to check the quality of the modeled protein molecule.



Identification of binding site

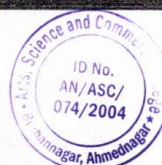


Pharmacophore Identification



IJR

222

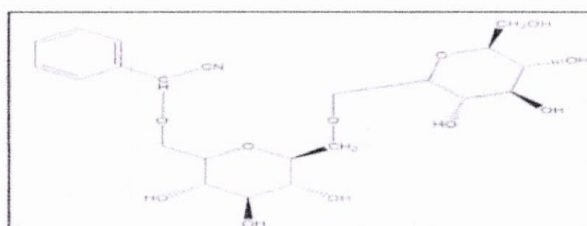


NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

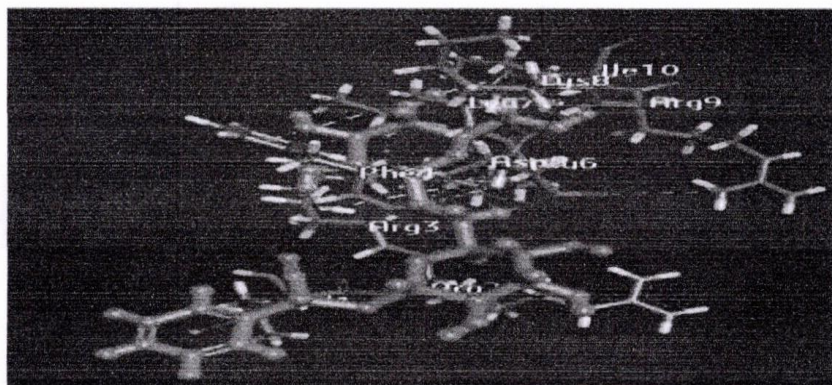
© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138)

www.ijrar.org (E-ISSN 2348-1269, P-

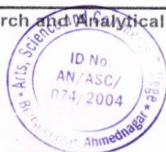
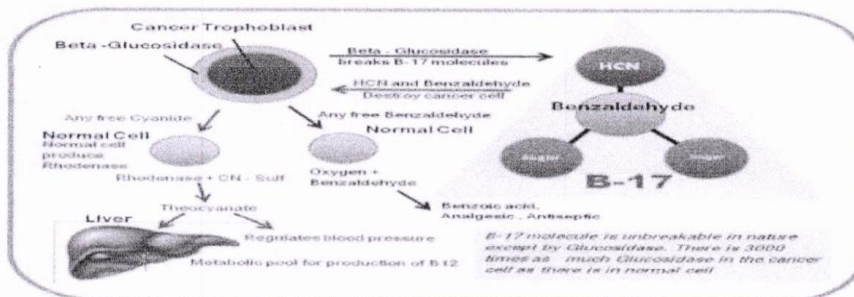
After docking studies we got core structure having the structural similarities as that of the Laetrile.



Structure of Laetrile (Amygdalin)
Docking of c-flip with amygdaline



Mode of action of Amygdali

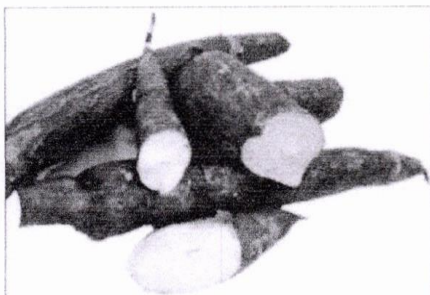


NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138)

www.ijrar.org (E-ISSN 2348-1269, P-

2. Selection of Natural Plant product from structural output.



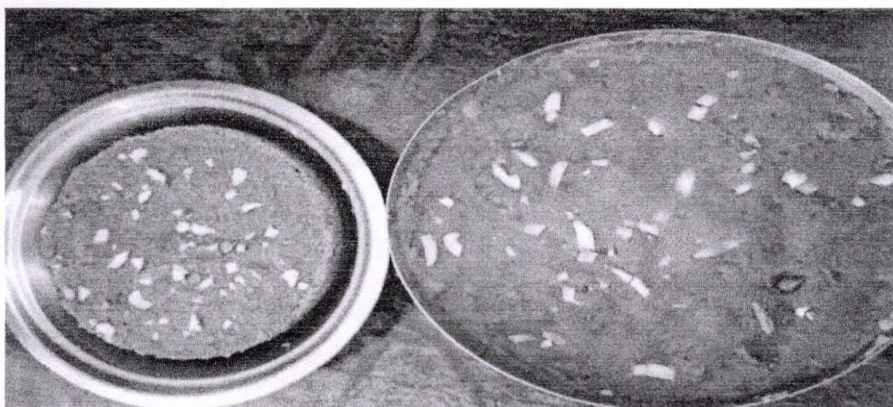
Cassava Root



Sorghum

Selected Natural Sources of Laetrile/Amygdalin 3.Extraction of desired anti apoptosis chemical entities from natural sources

4.Formation of nutritional food products from selected natural sources.

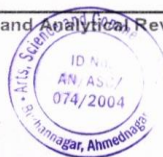


Prepared Food Product from Sorghum and Cassava Root

IJRARIBSP035

International Journal of Research and Analytical Reviews (IJRAR) www.ijrar.org

224



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1
ISSN 2349-5138

www.ijrar.org (E-ISSN 2348-1269, P-

Conclusion:

Anti-apoptotic protein c-FLIP is one of the important drug target in case of TRAIL and Drug/chemotherapy resistant cell lines. C-FLIP has attained a much importance in cancer treatment; inhibition of c-FLIP could help in increasing the apoptosis of cancer cells. In our present study, we studied the interaction of the c-FLIP with the natural and synthetic inhibitors that stop the activity of c-FLIP. C-FLIP contains two death effector regions (DED1,DED2) which have their activity inactivating c-FLIP, here we have taken the protein containing the two death receptor modeled the protein molecule by taking 3H11 as the template structure in Discovery studio. Modeled protein structure is the validated to predict the quality of the structure using Ramachandran plot analysis. After finding the compound same feature like Amygdaline we selected its natural source Cassava and Sorghum then processed it for extracting the same. C-flip protein modelling and its inhibitor study is new pathway for various anticancer studies. Natural c-flip inhibitors like Cassava and Sorghum are having dual advantage as a nutrients and as a anticancer agent or useful for cancer prevention. Prevention is better than cure, the reported sources of Amygdalin/ Vit. B 17 is an ideal food for cancer prevention.

References:

1. Kelley SK, Ashkenazi A. Targeting death receptors in cancer with Apo2L/TRAIL. *Curr Opin Pharmacol* 2004;4:333–9.
2. Rowinsky EK. Targeted induction of apoptosis in cancer management: the emerging role of tumor necrosis factor- related apoptosis inducing ligand receptor activating agents. *J Clin Oncol* 2005;23:9394 –407.
3. Krueger A, Baumann S, Krammer PH, Kirchhoff S. FLICE-inhibitory proteins: regulators of deathreceptor- mediate d apoptosis. *Mol Cell Biol* 2001;21: 8247–54.
4. Budd RC, Yeh WC , Tschopp J. cFLIP regulation of lymphocyte activation and development. *Nat Rev Immunol* 2006; 6:196–204.
5. Golks, A.; Brenner, D.; Fritsch, C.; Krammer, P. H.; Lavrik, I. N. c- FLIPR, a new regulator of death receptor-induced apoptosis. *J. Biol. Chem.* 2005, 280, 14507-14513.



NOVEL STUDIES ON ANTI APOPYOSIS INHIBITORS AS A PREVENTIVE MEASURE FOR CANCER

© 2020 IJRAR March 2020, Volume 7, Issue 1

www.ijrar.org (E-ISSN 2348-1269, P- ISSN 2349-5138)

6. Siegel, R. L., Miller, K. D. & Jemal, A. Cancer Statistics. *CA Cancer. J. Clin.* **68**, 7–30 (2018).
7. Blatt, E. B. & Raj, G. V. Molecular mechanisms of enzalutamide resistance in prostate cancer. *Cancer Drug Resist.* **2**, 189–197 (2019).
8. Sarveswaran, S., Morisetty, S., Varma, R. & Ghosh, J. Inhibition of 5-lipoxygenase downregulates stemness and induces apoptosis in prostate cancer stem cells via activation of c-Jun N-terminal Kinase. *Oncotarget* **10**, 424–436 (2019).
9. M. Djerbi, V. Screpanti, A.I. Catrina, B. Bogen, P. Biberfeld, A. Grandien, The inhibitor of death receptor signaling, FLICE- inhibitory protein defines a new class of tumor progression factors. *J Exp Med* **190** (1999) 1025-1032.
10. Scaffidi C, Schmitz I, Krammer PH, Peter ME. The role of c-FLIP in modulation of CD95-induced apoptosis. *J Biol Chem* **1999**; **274**:1541–8.
11. Galligan L, Longley DB, McEwan M, Wilson TR, McLaughlin K, Johnston PG. Chemotherapy and TRAIL-mediated colon cancer cell death: the roles of p53, TRAIL receptors, and c-FLIP. *Mol Cancer Ther* **2005**; **4**: 2026–36.



Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra

SEARCH | THINK INDIA JOURNAL <https://thinkindiaquarterly.org/muex.php/think-india/search/search>

About Journal

Think India Journal is a multidisciplinary journal for research publication. Journal is published monthly papers on various fields of study.

Search

Algal flora of maize field soil in Ahmednagar district

Advanced filters



Published After

Published Before

By Author

Search Results


Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra.
(<https://thinkindiaquarterly.org/index.php/think-india/article/view/17529>)

 18-22  Milind J. Jadhav, Swati G. Wagh

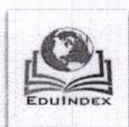
1 - 1 of 1 items

[Publishing Ethics \(https://journals.eduindex.org/index.php/think-india/publishing-ethics\)](https://journals.eduindex.org/index.php/think-india/publishing-ethics)

[Peer Review \(https://journals.eduindex.org/index.php/think-india/peer-review\)](https://journals.eduindex.org/index.php/think-india/peer-review)

of 2  07.01.2023 10:01

Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra



Think India Journal

ISSN: 0971-1260 Vol-22, Special Issue-31

National Conference ETDAB-2019

Held on 23th & 24th December 2019

Organized by: Deptt. of Botany, Deogiri College, Aurangabad, M.S



Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra.

Milind J. Jadhav and Swati G. Wagh*

Department of Botany, Sir Sayyed College, Roshan Gate area, Aurangabad-431001 (M.S.) India.

*Department of Botany, Shri. Baneshwar Arts, Commerce and Science College, Burhannagar,
Tal.And Dist.-Ahmednagar-414002 (M.S.) India.

ABSTRACT

Soil algae are one of the significant components of soil microflora. They play an important role in fertility of soil. Blue green algae fixes atmospheric nitrogen and increases the fertility of soil. The cultivated field ecosystem provides a favourable environment for the growth and development of algae. Present research work deals with the study of algal flora of Maize (*Zea mays* L.) field, located in Shrirampur tehsil area of Ahmednagar district of Maharashtra. In order to study algal flora of maize field, algal samples from moist places of field were collected at regular intervals from July 2017 to October 2017. Bold's basal medium was also used to culture algae from soil of maize field. Collected and cultured algal samples were observed with the help of standard literature on algae. A total of 47 species under 29 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were recorded. Cyanophycean algal taxa were found dominant in the soil of maize field. *Gloeocystisgigas*, *Gloeocystis major*, *Chlorococcumhumicola*, *Chlorella vulgaris*, *Nitzschiapalea*, *Aphanothecnidulans*, *Aphanothecesaxicola*, *Oscillatoriaobscura*, *Phormidiumjenkelianum*, *Phormidiummolle*, *Phormidiummsterii*, *Microcoleusacutissimus*, *Microcoleuslacustris* and *Plectonemagracillimum* were found abundant. Algal flora of maize field is rich and it is in diverse form.

Key words: Algal flora, maize field, soil.

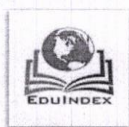
Introduction

Soil algae is one of the important component of soil microflora. They occur on or in soil, grow luxuriantly and found in diverse form. Soil algae are ecologically important as it protects soil from wind erosion and also act as an absorptive organ for water. Cyanophycean algae fixes atmospheric nitrogen and enhances the fertility of soil. Almost all species of soil algae helps in retention of soil moisture. Cultivated field ecosystem provides a favourable environment for the

Page | 18



Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra



Think India Journal

ISSN: 0971-1260 Vol-22, Special Issue-31

National Conference ETDAB-2019

Held on 23th & 24th December 2019

Organized by: Deptt. of Botany, Deogiri College, Aurangabad, M.S



growth and development of soil algae with respect to their requirement of light, water, temperature and nutrient availability. Soil algae have attracted the attention of phycologists since last few decades (Meeting 1981, Bongale 1985, Prasad 2005, Auti and Pingle 2007, Jadhav 2010 and Nimbhore and Jadhav 2014). Soil algal flora of paddy, banana, wheat, sugarcane have been studies extensively by earlier research workers (Bongale and Bharati 1980, Kolte and Goyal 1985, Kottawar and Pachpande 1986, Nayak et. al. 2001, Patil and Chaugule 2004, Prasad 2005, Auti and Pingle 2006, Nimbhore and Jadhav 2014). Maize (*Zea mays* L.) is one of the cereal crop of India. It is also cultivated on large scale in Maharashtra. Review of literature reveals that, very rare attention has been paid towards algal flora of maize field. Therefore, it has been decided to work systematically on algal flora of maize field soil.

Material and Methods

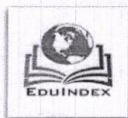
A maize field located in Shirampur tehsil area of Ahmednagar district of Maharashtra has been selected for collection of algal samples. Algal samples which are grown on moist soil surface of maize field were collected at regular intervals from July 2017 to October 2017. Algal samples were collected in sterilized collection bottles. Collected algal samples were brought to the laboratory for observation and identification. Sun dried soil samples collected from same maize field were examined for their algal components by petriplate culture method. 1 gm of pulverized soil poured and spread uniformly into petriplates containing agarized Bold's basal medium (Bold 1942). Liquid nutrient medium was poured into the plates at the time of keeping those for incubation and frequently supplemented with the same. Petriplates were incubated under tubelights having 1000 to 1500 lux capacity in algal culture chamber. Petriplates were checked for the growth of algal colonies. After sufficient growth, algal colonies were picked up for identification. Collected and cultured algal samples were observed under microscope.

Results and Discussion

A total of 47 species under 29 genera were identified of these 8 species under 7 genera belonged to Chlorophyceae, 7species under 7 genera to Bacillariophyceae and 32 species under 15 genera to Cyanophyceae (Table 1). Cyanophycean algae dominated algal flora of maize field soil. Similar observations were made by Bongale and Bharati (1985), Kottawar and Pachpande



Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra



Think India Journal

ISSN: 0971-1260 Vol-22, Special Issue-31

National Conference ETDAB-2019

Held on 23th & 24th December 2019

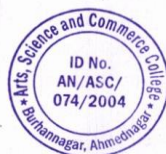
Organized by: Deptt. of Botany, Deogiri College, Aurangabad, M.S



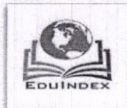
(1986), Auti and Pingle (2006) and Nimbhore and Jadhav (2014). Algal taxa which were found dominant during present study were *Gloeocystisgigas*, *Gloeocystis major*, *Chlorococcumhumicola*, *Chlorella vulgaris*, *Nizschia palea*, *Aphanothece nidulans*, *Aphanothece saxicola*, *Oscillatoria obscura*, *Phormidium usterii*, *Microcoleus acutissimus*, *Microcoleus lacustris* and *Plectonema gracillimum*. Chaporkar and Gangawane (1984) reported abundance of *Phormidium*, *Nostoc*, *Anabaena*, *Scytonema* and *Fischerella* from sorghum, wheat, sugarcane, and cotton fields. Prasad (2005) recorded dominance of *Chorella* and *Chlorococcum* while studying algal flora of wheat field. Bongale (1985) recorded dominance of diatoms such as *Navicula*, *Pinnularia*, *Cymbella*, *Hantzschia* and *Nitzschia* from cultivated soils of Karnataka. Thus it is concluded that algal flora of maize field soil is rich and found in diverse form. Cyanophycean algae are found dominant followed by Chlorophyceae and Bacillariophyceae.

References

- Auti, B. K. and Pingle, S. D. (2006) Nostocales from circle of Ahmednagar dist (M.S.) *Indian Hydrobiology*. **9 (2)**: 147-150.
- Auti, B. K. and Pingle, S. D. (2007) The Myxopyceae of the Arable lands from Ahmednagar district (M.S.) *Advances in Plant Science* **20 (II)**: 387-389.
- Bold, H. C. (1942) The cultivation of algae. *Bot. Rev.* **8**:69-138.
- Bongale, U. D. (1985) Systematic account of diatoms from the cultivated soils of Karnataka state, India. *Phykos*. **24**: 18-26.
- Bongale, U. D. and Bharati, S. G. (1980) On the algal flora of cultivated soils of Karnataka state, India. *Phykos*. **19 (1)**: 95-109.
- Chaporkar, C. B. and Gangawane, L. V. (1984) Blue green algae of some cultivated soils of Marathwada, Maharashtra. *Phykos*. **23**: 55-58.
- Jadhav Milind (2010) Algal diversity of Sorghum field. *The Biosphere*. **2 (1)**: 89-90.
- Kolte, S. O. and Goyal, S. A. (1985) Distributional pattern of blue green algae in rice field soils of Vidharbha region of Maharashtra state *Phykos*. **19 (1)**: 95-109.
- Kottawar, S. T. and Pachpande, P. R. (1986) Additions to the soil algae of Banana fields of Jalgaon district (Maharashtra). *Indian Botanical Reporter*. **5 (2)**: 95-109.
- Metting, B. (1981) The systematics and ecology of soil algae. *Bot. Rev.* **47 (2)**: 196-212.
- Nayak, S. R., Prasanna T. D. and P. Singh (2001) Floristic abundance of relative distribution of different cyanobacterial genera in rice field at different crop growth stages. *Phykos*. **40**:15-22.



Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra



Think India Journal
ISSN: 0971-1260 Vol-22, Special Issue-31
National Conference ETDAB-2019
Held on 23th & 24th December 2019

Organized by: Deptt. of Botany, Deogiri College, Aurangabad, M.S



Nimbhore, B. S. and Jadhav, M. J. (2014) Algal flora of Brinjal field soil of Aurangabad. *Bioscience Discovery*. **5 (1)**: 42-44.

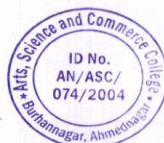
Nimbhore, B. S. and Jadhav, M. J. (2014) Soil algal flora of wheat field. *Journal of Science Information*. **5 (1)**: 31-36.

Patil, S. R. and Chaugule, B. B. (2004) Species diversity in paddy field, blue green algae of the western Maharashtra. *Abstract. Nat. Symp. Bist. and Biodiversity of the fresh water algae CAS, University of Madras*: 30.

Prasad, V. (2005). Algal and cyanobacterial distribution in the wheat field of Bara, Parsa and Rauth at Nepal. *Int. J. Mendel*. **22(3-4)**: 77-78.

Table 1: Algal flora of maize field soil.

Chlorophyceae
<i>Gloeocystis gigas</i> , <i>Gloeocystis major</i> , <i>Tetraspora lamellosa</i> , <i>Chlorococum humicola</i> , <i>Trebouxia humicola</i> , <i>Chlorella vulgaris</i> , <i>Scenedesmus caudricauda</i> , <i>Spirogyra subsalsa</i>
Bacillariophyceae
<i>Fragilaria brevistriata</i> , <i>Navicula cupsidata</i> , <i>Pinnularia</i> sp., <i>Cymbella aspera</i> , <i>Nitzschia palea</i> , <i>Gomphonemas</i> sp., <i>Suriella ovata</i> .
Cyanophyceae
<i>Chroococcus minutus</i> , <i>Chroococcus turgidus</i> , <i>Gloeocapsa rupestris</i> , <i>Gloeothece palea</i> , <i>Aphanothece nidulans</i> , <i>Aphanothece saxicola</i> , <i>Chlorogloea microcestoides</i> , <i>Myxosarcina burmensis</i> , <i>Arthrospira platensis</i> , <i>Spirulina subtilissima</i> , <i>Oscillatoria acuta</i> , <i>Oscillatoria obscura</i> , <i>Oscillatoria subbrevis</i> , <i>Phormidium abronema</i> , <i>Phormidium angustissium</i> , <i>Phormidium bohneri</i> , <i>Phormidium corium</i> , <i>Phormidium jenkelianum</i> , <i>Phormidium molle</i> , <i>Phormidium usterii</i> , <i>Lyngbya hieronmussi</i> , <i>Microcoleus acutissimus</i> , <i>microcoleus lacustris</i> , <i>Microcoleus sociatus</i> , <i>Nostoc commune</i> , <i>Nostoc punctiformae</i> , <i>Nostoc muscorum</i> , <i>Plectonema gracillimum</i> , <i>Plectonema puteale</i> , <i>Plectonema radiosum</i> , <i>Scytonema bohneri</i> , <i>Scytonema schmidtii</i> .



Algal Flora of Maize Field Soil in Ahmednagar District of Maharashtra

Rayat Shikshan Sanstha's

**Radhabai Kale Mahila Mahavidyalaya,
Ahmednagar (M.S.), 414 001**

(Re-accredited by NAAC with 'B' Grade)

Two Day National Level Conference

On

"Industry, Academia and Environmental Challenges" NCIAEC – 2017
Sponsored by Research Cell, Savitribai Phule Pune University, Pune

Certificate

This is to certify that Dr./Mr./Smt. *Wagh Shwati Govindkrishna*.....
from *Baneshwar Arts, Com & Sci College, A. Nagar*..... has attended and
actively participated in the National Level Conference on NCIAEC – 2017, organized by department of
Chemistry, Botany and Zoology, on 22nd and 23rd December, 2017 at Radhabai Kale Mahila
Mahavidyalaya, Ahmednagar. He / She has worked as resource person / chair person / presented paper
entitled *Algal Flora of Sugarcane field in Ahmednagar district of Maharashtra.*


 Dr. Shelke S. N. Coordinator (Chemistry)	 Dr. Pawar S. L. Coordinator (Zoology)	 Dr. Kulkarni S. A. Coordinator (Botany)	 Dr. Akolkar H. N. Org. Secretary	 Dr. Auti B. K. Convener	 Dr. Patil D. D. Principal
--	---	---	--	--	--





DIVERSITY IN CYNOBACTERIA IN THE CULTIVATED FIELDS OF AHMEDNAGAR DISTRICT INDIA

Volume 10 Number 3 Bioscience Discovery <https://jbsd.in/Volume%2010%20Number%203.html>



Research Journal

BIOSCIENCE DISCOVERY

An International peer review, referred, Research Journal of Life Sciences

12

Years old Journal

[HOME](#) [AUTHOR INSTRUCTIONS](#) [SUBSCRIPTION](#) [EDITORIAL BOARD](#) [CITATION ARCHIVE](#) [CONTACT US](#)

Volume 10 Number 3 (July 2019) Page Number 108-141 Peer Reviewed / Referred Research Journal

Published Print + Online, on 17 th July 2019, on <https://biosciencediscovery.com> and <https://jbsd.in>
 Volume 10, Number 3, July - 2019 Volume is available online 17 th July 2019
 Edited by Chief Editor, Dr. Umesh P. Mogie, Professor and Head, Department of Botany, J. E. S. College, Jalna (M. S.)

Sr. No.	Title of the Research paper /Author	Page Number	Abstract Click here	Download Full article
1	Chemical composition of the essential oil <i>Hedera sinensis</i> (Tobler) Hand. - Mazz.: An important herb species of Vietnam Van Huong Bui, Ngoc Anh Luu Dam, Dam Cu Luu, Van Thanh Bui, The Cuong Nguyen, Rajesh K. Joshi	108-111	VIEW Abstract	Research Article pdf
2	In vitro Cytotoxicity Studies of <i>Anaphalis neelgherryana</i> DC. Leaves and Barks against Human Colorectal Cancer Cell Lines (HCT 15) A. Maruthasalam, K. Vasantha, R.C. Rency and S. Ashok Kumar	112-118	VIEW Abstract	Research Article pdf
3	Effect of blue green algae on yield of Soyabean (<i>Glycine max</i> L. (Merr)) Jadhav S.R. and S.M. Talekar	119-121	VIEW Abstract	Research Article pdf
4	Diversity of cyanobacteria in the cultivated fields of Ahmednagar districts (M.S.) India Swati G. Wagh and Milind J. Jadhav	122-125	VIEW Abstract	Research Article pdf
5	<i>Molineria capitulata</i> (Lour.) Hebert (Family: Hypoxidaceae) – A new addition to the flora of Andaman and Nicobar Islands, India Apurba Kumar Das and C. Sivaperuman	126-128	VIEW Abstract	Research Article pdf
6	Effect of mutagens on seed germination, seedling height and survival of plants in Hyacinth bean (<i>Lablab purpureus</i> L.) sweet Gautam P Undirwade and Ganesh B Kulkarni	129-133	VIEW Abstract	Research Article pdf
7	In-vitro synergism between algae and bacteria isolated from bio-diversity hotspot for better environmental sustainability Debapriya Roy, Srijan Bhattacharya, Antara Biswas, Arpan Banerjee, Shinjini Ghosh and Arup Kumar Mitra	134-141	VIEW Abstract	Research Article pdf

Note: The editor, owner, printer and publisher does not accept any responsibility regarding unsolicited publication material, authenticity of data, statement, inaccurate data, opinions, results and view expressed by the authors in articles are of their own and not of **Bioscience Discovery Journal**.

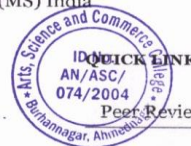
Online available on

1. <http://www.jbsd.in>
2. <http://www.biosciencediscovery.com>

Publisher: RUT Printer and Publisher, Jalna (MS) India

CONTACT TO PUBLISHER [QUICK LINKS](#)

RUT Printer and Publisher



DOWNLOAD PDF

Cover of the Vol. 10,

1 of 2 07-01-2023, 09:29 am

DIVERSITY IN CYNOBACTERIA IN THE CULTIVATED FIELDS OF AHMEDNAGAR DISTRICT INDIA

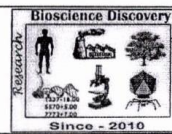
Bioscience Discovery, 10(3): 122-125, July - 2019

© RUT Printer and Publisher

Print & Online, Open Access, Research Journal Available on <http://jbsd.in>

ISSN: 2229-3469 (Print); ISSN: 2231-024X (Online)

Research Article



Diversity of cyanobacteria in the cultivated fields of Ahmednagar districts (M.S.) India

Swati G. Wagh and Milind J. Jadhav*

Department of Botany, Shri. Baneshwar Arts, Commerce and Science College, Burhannagar, Tal. & Dist. - Ahmednagar, Pin code- 414002. (M.S.) India.

*Department of Botany, Sir Sayyad College, Roshan Gate area, Aurangabad, Pin code- 413001. (M.S.) India.

*Email- dr.mjjadhav@gmail.com

Article Info

Received: 02-05-2019,

Revised: 22-06-2019,

Accepted: 28-06-2019

Keywords:

Cyanobacteria, diversity, soil, physicochemical analysis

Abstract

Cyanobacteria is an important group of soil. Ecologically they are significant and plays a crucial role in fertility of soil. Cyanobacteria fixes atmospheric nitrogen and increases fertility of soil. Majority of the species of cyanobacteria helps in retention of soil moisture and provides germination ground for seeds of flowering plants. The cultivated field ecosystem provides a favourable environment for the growth and development of cyanobacteria. In order to study diversity of cyanobacteria of cultivated fields, sugarcane and onion fields from Ahmednagar district of Maharashtra were selected. The work was carried out from October 2015 to September 2016. Cyanobacterial samples were collected at regular intervals from moist soil surface of selected cultivated fields. A total of 29 species under 12 genera were identified and recorded. Maximum number of cyanobacterial forms were recorded from sugarcane field. Taxa of *Aphanothece*, *Oscillatoria*, *Phormidium*, *Microcoleus* and *Plectonema* were found dominant. *Aphanothece nidulans*, *Oscillatoria acuminata*, *Phormidium jenkelianum*, *Phormidium molle*, *Phormidium usterii*, *Lyngbya hieronymusii*, *Microcoleus acutissimus*, *Microcoleus lacustris*, and *Microcoleus subtorulosus* were recorded in both the fields. Physicochemical analysis of soil of selected cultivated fields was also performed by selecting certain physicochemical parameters such as pH, electrical conductivity, organic carbon, available nitrogen, available phosphorus and available potassium. A positive correlation among composition of cyanobacterial flora and physicochemical analysis of soil were observed.

INTRODUCTION

Cyanobacteria is a large and diverse group of plant kingdom, resembling gram negative bacteria in cellular organization and green plants in oxygenic photosynthesis. They occupy a variety of terrestrial habitats including soil, rocks, walls and caves. Soil habitats are the most important ecosystems for cyanobacteria. Soil cyanobacteria performs important functions for agro-ecosystems. They contribute in soil formation and stabilization of mature soil (Metting, 1981). They promote the

aggregation of soil particles and enhance water retention capacity of soil through the production of extracellular polysaccharide. The most important effect of cyanobacteria in soil on agriculture is the input of carbon and nitrogen (Shields and Durrell, 1964). Cyanobacteria fixes atmospheric nitrogen and increase fertility of soil (Singh, 1961; Santra 1993; Goyal, 1997). The agronomic potential of cyanobacteria was recognized in 1938 by De, who attributed the natural fertility of tropical rice fields to nitrogen fixing cyanobacteria.

<http://jbsd.in>

122

ISSN: 2229-3469 (Print)



DIVERSITY IN CYNOBACTERIA IN THE CULTIVATED FIELDS OF AHMEDNAGAR DISTRICT INDIA

Bioscience Discovery, 10(3): 122-125, July - 2019

The cultivated field ecosystem provides a favourable environment for the growth of cyanobacteria with respect to their requirements of light, water, temperature and nutrient availability. In India, diversity and distribution of cyanobacteria in different crop fields have been studied by Bongale and Bharati (1980), Prasad and Mehrotra (1980), Sirdeshpande and Goyal (1981), Chatterjee and Chatterjee (1983), Chaporkar and Gangawane (1984), Kolte and Goyal (1985), Patil and Chaugule (2004), Auti and Pingle (2007), Jadhav (2010), and Jadhav and Nimbhore (2015). Present paper deals with the studies on diversity of cyanobacteria from soils of sugarcane (*Saccharum officinarum* L.) and onion (*Allium cepa* L.) fields in relation to physicochemical analysis of soil.

MATERIALS AND METHODS

In order to study the diversity of cyanobacteria from cultivated fields, sugarcane field located in Newasa thesil area and onion field located in Nagar thesil area have been selected. Cyanobacterial samples which are grown on moist soil surface of sugarcane and onion fields were collected at regular intervals from October 2015 to September 2016 and October 2015 to January 2016 respectively. These samples were collected in sterilized collection bottles. Collected samples were brought to the laboratory for observation and identification.

The sun dried soil samples collected from same sugarcane and onion fields were examined for their cyanobacterial components by petriplate culture method. 1gm of pulverized soil poured and spread uniformly into the petriplates containing agarized Bold's basal medium (Bold 1942). Liquid nutrient medium was poured into the plates at the time of keeping those for incubation and frequently supplemented with the same. The petriplates were incubated under tubelights having 1000 to 1500 lux capacity in the algal culture chamber. Petriplates were checked for the growth of algal colonies. After sufficient growth, colonies were picked up for identification.

Cyanobacterial samples were observed under research microscope and identified with the help of standard literature. In order to know the fertility status of selected sugarcane and onion fields, physicochemical analysis of soil was performed by selecting certain physicochemical parameters such as pH, electrical conductivity, organic carbon, available nitrogen, available

phosphorus and available potassium (Trivedi *et al.*, 1998).

RESULTS AND DISCUSSION

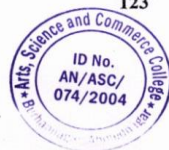
In order to study cyanobacterial diversity of cultivated soil, sugarcane and onion fields were selected from Ahmednagar district of Maharashtra. A total of 29 species under 12 genera were recorded during present study. 21 species under 9 genera of cyanobacteria from sugarcane field and 17 species under 9 genera from onion field were identified and recorded (Table 1). Maximum number of cyanobacterial forms were recorded from sugarcane field. Bongale and Bharati (1980), Sirdeshpande and Goyal (1981), Chatterjee and Chatterjee (1983), Chaporkar and Gangawane (1984), Auti and Pingle (2007), Jadhav (2010), and Jadhav and Nimbhore (2015) extensively studied diversity and distribution of cyanobacteria from rice, wheat, sorghum, bajra, gram, sugarcane, cotton and fenugreek. During present study taxa of *Aphanothece*, *Oscillatoria*, *Phormidium*, *Microcoleus* and *Plectonema* were found dominant. Prasad (2005) observed dominance of *Chroococcus*, *Gloeothece*, *Phormidium*, *Oscillatoria* and *Nostoc* from wheat field of Nepal. Jadhav and Nimbhore (2015) reported dominance of *Aphanothece*, *Oscillatoria*, *Microcoleus*, *Phormidium*, *Plectonema*, *Chroococcus*, *Lyngbya* and *Myxosarcina* from Wheat and Fenugreek fields.

Aphanothece nidulans, *Oscillatoria acuminata*, *Phormidium jenkelianum*, *Phormidium molle*, *Phormidium ustarii*, *Lyngbya hieronymusii*, *Microcoleus acutissimus*, *Microcoleus lacustris*, *Microcoleus subtorulosus*, were recorded from both the fields. Heterocystous as well as non heterocystous cyanobacterial forms were recorded. Heterocystous forms such as *Cylindrospermum michailovskaense*, *Nostoc linckia* and *Nostoc muscorum* were recorded. Unicellular, Colonial and filamentous forms of cyanobacteria were recorded during present study. The overall fertility status of sugarcane and onion fields is moderate alkali with moderate electrical conductivity. Organic carbon was high in sugarcane field where as it is low in onion field. Available nitrogen was found very low in sugarcane field and low in onion field. Phosphorus was found high in sugarcane field where as it was very low in onion field. Potassium was low in sugarcane field and it was found very low in onion field (Table 2 and 3) Soil pH is the most important factor determining cyanobacterial flora composition.

<http://biosciencediscovery.com>

123

ISSN: 2231-024X (Online)



DIVERSITY IN CYNOBACTERIA IN THE CULTIVATED FIELDS OF AHMEDNAGAR DISTRICT INDIA

Wagh and Jadhav

Table 1: Cyanobacterial taxa recorded from Sugarcane and onion field.

Sr. No.	Name of Cyanobacteria	Sugarcane field	Onion field
1	<i>Gloeothece palea</i>	+	-
2	<i>Aphanothece nidulans</i>	+	+
3	<i>Aphanothece saxicola</i>	-	+
4	<i>Merismipedia tenuissima</i>	-	+
5	<i>Myxosascina burmensis</i>	-	+
6	<i>Spirulina major</i>	+	-
7	<i>Oscillatoria acuminata</i>	+	+
8	<i>Oscillatoria acuta</i>	+	-
9	<i>Oscillatoria animalis</i>	+	-
10	<i>Oscillatoria obscura</i>	+	-
11	<i>Oscillatoria princeps</i>	+	-
12	<i>Oscillatoria subbrevis</i>	-	+
13	<i>Oscillatoria quadripunctulata</i>	+	-
14	<i>Phormidium abronema</i>	-	+
15	<i>Phormidium corium</i>	+	-
16	<i>Phormidium jenkelianum</i>	+	+
17	<i>Phormidium molle</i>	+	+
18	<i>Phormidium usterii</i>	+	+
19	<i>Lyngbya hieronymusii</i>	+	+
20	<i>Lyngbya major</i>	-	+
21	<i>Lyngbya martensina</i>	+	-
22	<i>Microcoleus acutissimus</i>	+	+
23	<i>Microcoleus lacustris</i>	+	+
24	<i>Microcoleus subtorulosus</i>	+	+
25	<i>Cylindrospermum michailouskaense</i>	-	+
26	<i>Nostoc linckia</i>	+	-
27	<i>Nostoc muscorum</i>	-	+
28	<i>Plectonema gracillimum</i>	+	-
29	<i>Plectonema nostocorum</i>	+	-

+ = Present, - = Absent

Table 2: Physicochemical analysis of Sugarcane field Soil

Sr. No.	Parameter	Observation	Fertility Status
1	pH	7.98	Moderate alkali
2	Electrical Conductivity (Mili mohs / Centimeter)	0.16	Moderate
3	Organic Carbon (%)	1.51	High
4	Avilable Nitrogen (Kg / hectare)	125.00	Very Low
5	Avilable Phosphorous (Kg / hectare)	57.66	High
6	Avilable Potassium (Kg / hectare)	47.04	Very Low

Table 3: Physicochemical analysis of onion field Soil.

Sr. No.	Parameter	Observation	Fertility Status
1	pH	8.15	Moderate alkali
2	Electrical Conductivity (Mili mohs / Centimeter)	0.38	Moderate
3	Organic Carbon (%)	0.39	Low
4	Avilable Nitrogen (Kg / hectare)	159.93	Low
5	Avilable Phosphorous (Kg / hectare)	10.97	Low
6	Avilable Potassium (Kg / hectare)	392	Very High

<http://jbsd.in>



ISSN: 2229-3469 (Print)

DIVERSITY IN CYNOBACTERIA IN THE CULTIVATED FIELDS OF AHMEDNAGAR DISTRICT INDIA

Bioscience Discovery, 10(3): 122-125, July - 2019

Under natural conditions cyanobacteria grow preferentially in environments that are neutral to alkaline. Moderate electrical conductivity of soil favours the growth of cyanobacteria. In the present study, it is noticed that there is a significant positive correlation between organic carbon and abundance of cyanobacteria. High organic carbon in sugarcane field favours growth of cyanobacteria whereas it was low in onion field affected diversity of cyanobacteria. Soil rich in nitrogen phosphorus and potassium supports growth of cyanobacteria.

Hence it is concluded that, the cultivated field ecosystem provides a favourable environment for the growth and development of cyanobacteria. Maximum numbers of cyanobacterial forms were found in sugarcane field than onion field. Cyanobacterial flora of sugarcane is rich and it is found in diverse form. A Positive correlation among cyanobacterial flora and physicochemical parameters of soil was observed.

REFERENCES

Auti BK and Pingle SD, 2007. The Myxophyceae of the Arable lands from Ahmednagar district (M.S.) *Ad. Plant Sci.* **20(II)**: 387-389.
Bongale UD and Bharati SG, 1980. On the algal flora of cultivated soils of Karnataka state, India *Phykos*, **19(1)**: 95-109.
Chaporkar C.B. and Gangawane L.V. 1984. Blue green algae of some cultivated soils of Marathwada, Maharashtra. *Phykos*, **23**: 55-58.
Chatterjee M and Chatterjee SP, 1983. Nitrogen fixing cyanobacteria from the paddey field soil of Burdwan district. *Phykos*, **22**: 64-66.
De PK, 1983. The role of blue-green algae in nitrogen fixation in rice fields *Proc. R. Soc. London.* **127(B)**: 121-139.
Goyal SK, 1997. Algae and the soil environment. *Phykos*, **36**: 1-13.
Jadhav Milind, 2010. Algal diversity of Sorghum field. *The Biosphere*, **2(1)**: 89-90.

Jadhav Milind J and Nimbhore Balasaheb S, 2015. Cyanobacterial diversity and distribution in the cultivated fields of Aurangabad. Proc. Nat. conf. on Frontiers in plant diseases and its control for agricultural development. Editor Dr. D.P.Gurad and Dr. U.T. Kesare. Biochemical science publisher. 86-93.

Kolte SO and Goyal SA, 1985. Distributional pattern of blue green algae in rice field soils of Vidarabha region of Maharashtra state. *Phykos*. **24**: 156-162.

Metting B, 1981. The Systematics and ecology of soil algae. *Bot. Rev.* **47(2)**: 196-212.

Patil SR and Chougule BB, 2004. Species diversity in paddey field blue green algae of the western Maharashtra. *Abs. Nat. Symp. Bist and Biodiversity of fresh water algae*, CAS, University of Madras: 30.

Prasad BN and Mehoratra PK, 1980. Blue green algae of paddey fields of Utter Pradesh. *Phykos*. **19(1)**: 121-128.

Prasad V, 2005. Algal and Cyanobacterial distribution in the wheat fields of Bara, Parsa and Rauth at Nepal. *Int. J. Mendel.* **22(3-4)**: 77-78.

Santra SC, 1983. Biology of rice field blue-green algae. *Daya Publishing House*, New Delhi. 184pp.

Shields LM and Durrell LW, 1964. Algae in relation to soil fertility. *Bot. Rev.* **30**: 92-128.

Singh RN, 1961. Role of blue green algae in nitrogen economy of Indian agriculture, 175pp. Indian council of Agricultural research, New Delhi.

Sirdesphande JS and Goyal SK, 1981. Distribution pattern of blue green algae in rice field soils of kokan region of Maharashtra state. *Phykos*. **20(1-2)**: 102-106.

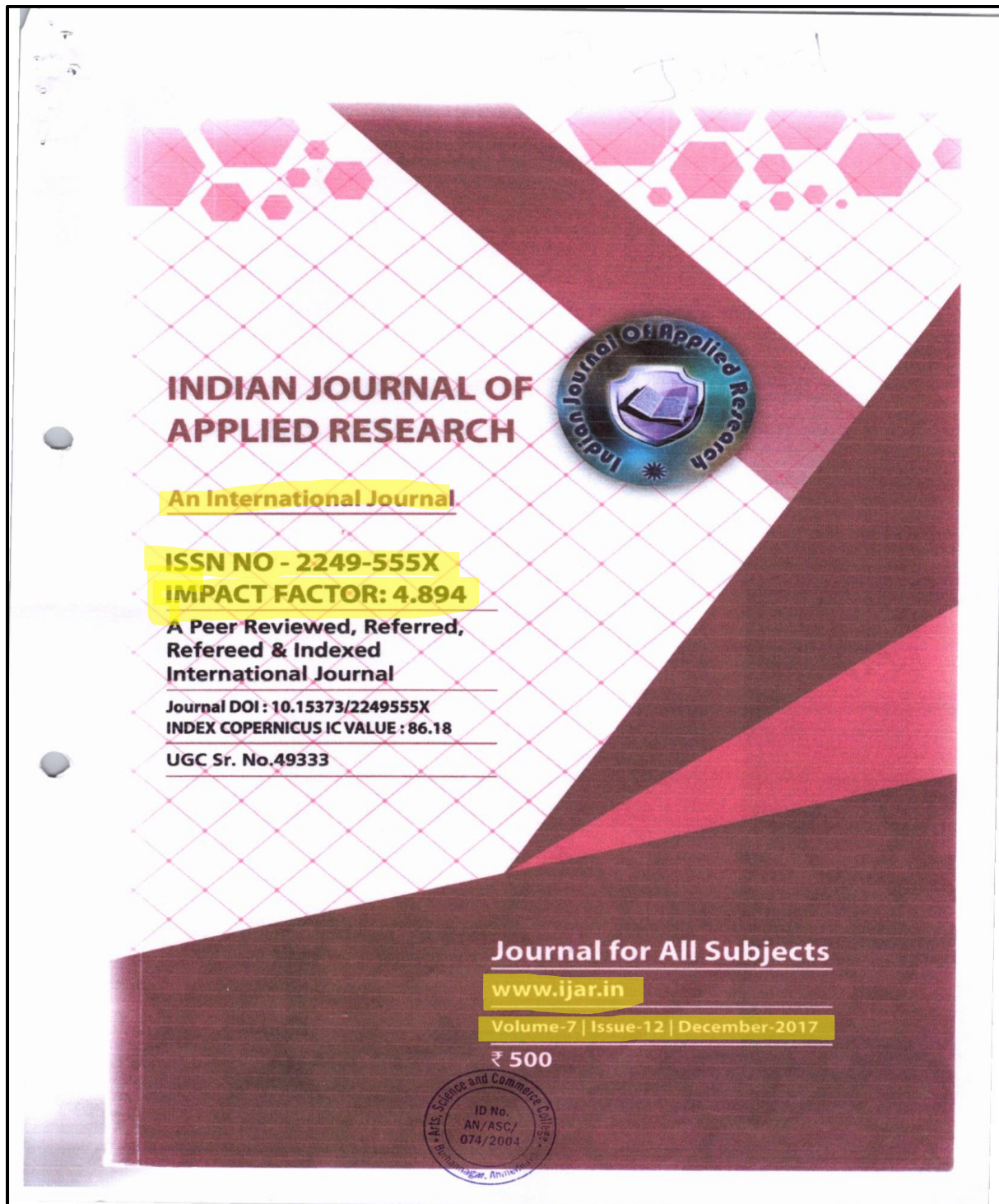
Tridevi RK Goel PK and Trisal CL, 1998. Practical methods in ecology and environmental science. *Enviro media Publications, Karad (India)*: 1-340.

How to cite this article

Swati G. Wagh and Milind J. Jadhav, 2019. Diversity of cyanobacteria in the cultivated fields of Ahmednagar districts (M.S.) India. *Bioscience Discovery*, **10(3)**:122-125.



DIVERSITY OF SOIL ALGAE IN WHEAT FIELDS OF
AHMEDNAGAR DISTRICT



DIVERSITY OF SOIL ALGAE IN WHEAT FIELDS OF AHMEDNAGAR DISTRICT

INDEX

Title	Page No.
A SNAPSHOT ON AGRICULTURAL SCENARIO UNDER GLOBALIZED ERA Mrs.K.SANGEETHA, Dr.N.KANNAN	59-60
Gauging the retail format choice parameters for food & grocery segment in the city of Ahmedabad. Swati Saxena	61-63
Optical studies in Er doped Nanocrystalline CaF2 G N VenkataReddy, C. Pandurangappa	64-66
A study on impact of Demonetization on working class at Bangalore Mrs. B Rammya, Ms. Kavya	67-69
INFLUENCE OF LIQUID FERTILIZER OF CAULERPA RACEMOSA ON SEED GERMINATION AND SEEDLING GROWTH OF LEGUMES AND CEREALS Bharat N. Misal, Anjali B. Sabale	70-72
DIVERSITY OF SOIL ALGAE IN WHEAT FIELD OF AHMEDNAGAR DISTRICT (M.S.) SWATI G. WAGH, MILIND J. JADHAV	73-74
A STUDY ON IMPACT OF GST: IMPACT ON OUR HOUSEHOLD BUDGET P. ARAVANA KUMAR	75-75
ANALYSIS OF FUSELAGE SIDE PANEL WITH STIFFENERS E S Elumalai, G Kavitha, G Krishnaveni	76-83



DIVERSITY OF SOIL ALGAE IN WHEAT FIELDS OF AHMEDNAGAR DISTRICT

Original Research Paper | Volume-7 | Issue-12 | December-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 86.18

Botany

DIVERSITY OF SOIL ALGAE IN WHEAT FIELD OF AHMEDNAGAR DISTRICT (M.S.)

Dr. Sayyad G. Wagle
Department of Botany, Shri. Baneshwar Arts, Commerce and Science College, Burhannagar, Ahmednagar, Pin code- 414002. (M.S.) India.

Dr. Sayyad G. Wagle
Department of Botany, Sir Sayyad College, Roshan Gate area, Aurangabad, Pin code- 413001. (M.S.) India.

ABSTRACT Present research work deals with the detailed and scientific study of diversity of soil algae of wheat (*Triticum aestivum* L.) field. Soil algae are one of the important components of soil microflora which plays a crucial role in fertility of soil. Algal samples from different places of wheat field were collected at regular intervals from November 2015 to March 2016. Bold's basal medium was also used for culturing algae from soil of wheat field. Collected and cultured algal samples were observed thoroughly under research microscope and identified with the help of standard literature on algae. A total of 77 species under 32 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded. Cyanophyceae algae were found dominant followed by Bacillariophyceae and Chlorophyceae. Algal forms *Gloeoecystis*, *Chlorococcum*, *Chlorella*, *Navicula*, *Gomphonema*, *Nitzschia*, *Aphanothece*, *Myxosarcina*, *Spirulina*, *Oscillatoria*, *Phormidium*, *Phormidium*, *Microcoleus*, *Nostoc* and *Plectonema* were found abundant. Physicochemical analysis of wheat field soil was also carried out by selecting certain physicochemical parameters such as pH, electrical conductivity, organic carbon, available nitrogen, available phosphorus and available potassium to understand fertility status of soil. Wheat field soil supports growth and development of algae. Algal flora of wheat field is rich and less found in diverse form.

KEYWORDS : Soil algae, Wheat field and physicochemical analysis.

INTRODUCTION
A soil algae is one of the important group of soil microflora. They are generally found on or in the soil. Soil algae are ecologically important and play a significant role in fertility of soil. Cyanophyceae algae especially heterocystous algal forms fixes atmospheric nitrogen and increases fertility of soil. Majority of the species of algae helps in retention of soil moisture and provides germination ground for seeds of flowering plants. The cultivated field ecosystem provides a favourable environment for the growth and development of algae with respect to their requirements of light, water, temperature and nutrient availability. Since past few decades soil algae have attracted attention of phycologists (Meeting 1981, Bongale 1985, Prasad 2005, Auti and Pingle 2007, Jadhav 2010, Nimbhore and Jadhav 2014). Soil algal flora of paddy, banana, wheat, sugarcane and brinjal fields have been studied extensively by earlier research workers. (Bongale and Bharati 1980, Kolie and Goyal 1985, Kottawar and Pachpande 1986, Nayak et al. 2001, Patil and Chaugule 2004, Prasad 2005, Auti and Pingle 2006, Nimbhore and Jadhav 2014). Wheat (*Triticum aestivum* L.) is one of the cereal crop of India. It is also cultivated on large scale in western region of Maharashtra. Review of literature reveals that, very rare attention has been paid towards algal flora of wheat field. Therefore it has been decided to work systematically on algal diversity of wheat field soil.

MATERIALS AND METHODS
A wheat field located in Rahuri tehsil area of ahmednagar district of Maharashtra has been selected for the collection of algal and soil samples. Algal samples were collected in sterilized collection bottles from moist places of selected wheat fields at regular intervals, from November 2015 to March 2016. Collected algal samples were brought to the laboratory for observation and identification. The sun dried soil samples collected from same wheat field were examined for their algal components by petriplate culture method. 1gm of pulverized soil poured and spread uniformly into the petriplates containing agarized Bold's basal medium (Bold 1942). Liquid nutrient medium was poured into the plates at the time of keeping those for incubation and frequently supplemented with the same. The petriplates were incubated under tubelights having 1000 to 1500 lux capacity in the algal culture chamber. Petriplates were checked for the growth of algal colonies. After sufficient growth, algal colonies were picked up for identification.

Algal samples were observed under research microscope and identified with the help of standard literature on algae.

know the fertility status of selected wheat field, analysis of soil was performed for certain selected physicochemical parameters such as pH, electrical conductivity, organic carbon, available nitrogen, available phosphorus and available potassium (Trivedi et al. 1998).

RESULTS AND DISCUSSION
A total of 77 species under 32 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded. Of these 8 species under 7 genera belonged to Chlorophyceae, 14 species under 7 genera belonged to Bacillariophyceae and 55 species under 18 genera belonged to Cyanophyceae (Table 1). Cyanophyceae algae were found dominant. Bongale and Bharati (1984), Kottawar and Pachpande (1986), Auti and Pingle (2006), Nimbhore and Jadhav (2014) observed dominance of Cyanophyceae algae from wheat field. During present investigation *Aphanothece*, *Myxosarcina*, *Spirulina*, *Oscillatoria*, *Phormidium*, *Lynghya*, *Microcoleus*, *Nostoc* and *Plectonema* were dominant. Similar kind of observations were made by Prasad (2005) and Nimbhore and Jadhav (2014).

During present study *Gloeoecystis*, *Chlorococcum* and *Chlorella* were found abundant. Prasad (2005) also reported abundance of *Chlorococcum* and *Chlorella* from wheat field of Nepal. *Chlorella Vitigaris*, *Chlorococcum humicola* and *Stichococcus subtilis* are important constituent of soil algal flora of various parts of world. Occurrence of *Stichococcus subtilis* in wheat field soil is the first time report from western region of Maharashtra.

Occurrence of diatoms in remarkable number in wheat field is interesting feature of present study. A total of 14 species of diatoms were recorded. Among diatom species of *Navicula*, *Gomphonema* and *Nitzschia* were common. Prasad (2005) and Nimbhore and Jadhav (2014) also recorded dominance of *Navicula* and *Nitzschia* in wheat field. Unicellular, colonial and filamentous algal forms were recorded during present research work. Filamentous algal forms were found in maximum number. Classwise percentage contribution study of algal flora of wheat field reveals that, highest contribution was of Cyanophyceae 71% followed by Bacillariophyceae (18 %) and Chlorophyceae (11%) (Fig.1) Overall algal taxa which were found common in wheat field during present research work were *Gloeoecystis gigas*, *Gloeoecystis major*, *Chlorococcum humicola*, *Chlorella vulgaris*, *Navicula cuspidata*, *Nitzschia palea*, *Aphanothece nidulans*, *Aphanothece Saxicola*, *Myxosarcina burmensis*, *Spirulina gigantea*, *Spirulina labyrinthiformis*, *Oscillatoria acuta*, *Oscillatoria Obscura*, *Oscillatoria Subbrevis*, *Phormidium*, *abronema*, *Phormidium*

Department of Botany and Commerce
AN/ASC/
074/2004
Burhannagar, Ahmednagar

INDIAN JOURNAL OF APPLIED RESEARCH 73

DIVERSITY OF SOIL ALGAE IN WHEAT FIELDS OF AHMEDNAGAR DISTRICT

Volume-7 | Issue-12 | December-2017 | ISSN - 2249-555X | IF : 4.894 | IC Value : 86.18

boheri, *Phormidium corium*, *Phormidium jenkeltanum*, *Phormidium molle*, *Lynghya hieronymusii*, *Microcoleus acutissimis*, *Microcoleus subtorulosus*, *Nostoc mucorum* and *Plectonema gracillimum*.

Analysis of Physicochemical parameters of soil reveals fertility status of soil. The overall fertility status of selected wheat field soil was moderate alkali (pH 7.79) normal electrical conductivity (0.29 M mhos/cm), moderately high organic content (0.61%), and moderate available nitrogen (306.00 kg/hectare), low available phosphorous (23.06 kg/hectare) and very low available potassium (84.67 kg/hectare). Moderate alkaline soil favours growth of algae. Normal electrical conductivity supports growth of algae. Soil rich in nitrogen, phosphorous and potassium harbours algal flora. In wheat field available nitrogen is moderate; available phosphorous low and available potassium is very low.

CONCLUSION

A total of 77 species under 32 genera of algae were recorded from soil of wheat field. Cyanophyceae algae are found dominant than Bacillariophyceae and Chlorophyceae. Unicellular, Colonial and filamentous algae were recorded. Filamentous algal forms were found abundant. Algal flora of wheat field is rich and it is found in diverse form. Soil is moderate alkali with normal electrical conductivity. Organic carbon is moderately high. Nitrogen is moderate whereas phosphorous is low and potassium is very low. Moderate alkaline soil favours growth of Cyanophyceae algae. Present research work will enhance the knowledge of soil algae of western region of Maharashtra.

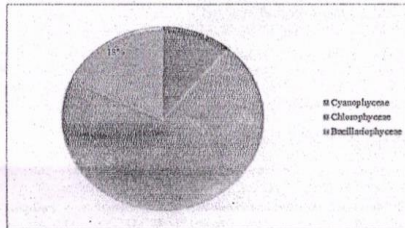


Figure 1: Classwise Percentage contribution of Algae of Wheat field soil.

Table 1: Diversity of soil algae from Wheat field.

Chlorophyceae <i>Gloeocystis gigas</i> , <i>Gloeocystis major</i> , <i>Stichococcus subtilis</i> , <i>Chlorococcum humicola</i> , <i>Chlorella vulgaris</i> , <i>Ankistrodesmus minutus</i> , <i>Spirogyra aequinoctialis</i> , <i>Cosmarium subitimidum</i> .
Bacillariophyceae <i>Navicula construens</i> , <i>Fragilaria brevistriata</i> , <i>Navicula cupisdata</i> , <i>Navicula lusteddi</i> , <i>Pinnularia</i> sp., <i>Cymbella aspera</i> , <i>Gomphonema agarum</i> , <i>Gomphonema monatum</i> , <i>Gomphonema</i> sp., <i>Nitzschia obtusa</i> , <i>Nitzschia obtusa</i> var. <i>scalpelliformis</i> , <i>Nitzschia palea</i> , <i>Nitzschia wardhensis</i> , <i>Siribella ovata</i> .
Cyanophyceae <i>Chroococcus minor</i> , <i>Chroococcus minutus</i> , <i>Chroococcus turgidus</i> , <i>Gloeotheca palea</i> , <i>Aphanathece nidulans</i> , <i>Aphanathece saxicola</i> , <i>Synechococcus aërginosus</i> , <i>Synechocystis aquatilis</i> , <i>Merismopedia tenuissima</i> , <i>Myxosarcina burmensis</i> , <i>Spirulina gigantea</i> , <i>Spirulina labyrinthiformis</i> , <i>Spirulina laxissima</i> , <i>Spirulina subtilissima</i> , <i>Oscillatoria acuta</i> , <i>Oscillatoria acuminata</i> , <i>Oscillatoria anguina</i> , <i>Oscillatoria animalis</i> , <i>Oscillatoria chorina</i> , <i>Oscillatoria obscura</i> , <i>Oscillatoria princeps</i> , <i>Oscillatoria quadripunctulata</i> , <i>Oscillatoria schultzei</i> , <i>Oscillatoria subbrevis</i> , <i>Phormidium abronema</i> , <i>Phormidium boheri</i> , <i>Phormidium jadintanum</i> , <i>Phormidium jenkeltanum</i> , <i>Phormidium molle</i> , <i>Phormidium subincrustatum</i> , <i>Phormidium usterii</i> , <i>Lynghya austerii</i> , <i>Lynghya birgei</i> , <i>Lynghya hieronymusii</i> , <i>Lynghya magnifica</i> , <i>Lynghya martensina</i> , <i>Lynghya major</i> , <i>Lynghya majuscula</i> , <i>Microcoleus acutissimus</i> , <i>Microcoleus lacustris</i> , <i>Microcoleus paludosus</i> , <i>Microcoleus sociatus</i> , <i>Microcoleus subtorulosus</i> , <i>CylindrospERMUM</i> sp., <i>Nostoc commune</i> , <i>Nostoc linkia</i> , <i>Nostoc muscorum</i> , <i>Plectonema gracillimum</i> , <i>Plectonema puteale</i> , <i>Plectonema radiosum</i> , <i>Seytonema boheri</i> , <i>Calothrix marchia</i> , <i>Stigonema hormoides</i> .

Table 2: Physicochemical analysis of Wheat field Soil.

Sr. No.	Parameter	Observation	Fertility Status
1	pH	7.79	Moderate alkali
2	Electrical Conductivity (Milli mhos / Centimeter)	0.29	Normal
3	Organic Carbon (%)	0.61	Moderately High
4	Available Nitrogen (Kg / hectare)	306.00	Moderate
5	Available Phosphorous (Kg / hectare)	23.06	Low
6	Available Potassium (Kg / hectare)	84.67	Very Low

REFERENCES

1. Auti, B.K. and Pingle, S.D. (2006) Nostocales from circle of Ahmednagar district (M.S.) Indian Hydrobiology, 9(2): 147-150.
2. Auti, B.K. and Pingle S.D. (2007) The Myxophyceae of the Arable lands from Ahmednagar district (M.S.) Ad. Plant Sci. 20(II): 387-389.
3. Bongale, U.D. (1985) Systematic account of diatoms from the cultivated soils of Karnataka state, India Phytos. 24: 18-26.
4. Bongale, U.D. and Bharati, S.G. (1980) On the algal flora of cultivated soils of Karnataka state, India Phytos. 19(1): 95-109.
5. Jadhav Milind (2010) Algal diversity of Sorghum field. The Biosphere. 2(1): 89-90.
6. Kotte, S.O. and Goyal, S.A. (1985) Distributional pattern of blue green algae in rice field soils of Vidarbha region of Maharashtra state. Phytos. 19(1): 95-109.
7. Kottawar, S.T. and Pachpande, P.R. (1986) Additions to the soil algae of Banara fields of Jalgaon district (Maharashtra). Indian Bot. Reporter: 5 (2): 130-133.
8. Meining, B. (1981) The Systematics and Ecology of soil algae. Bot. Rev. 47(2): 196-312.
9. Nayak, S.R., Prasanna, T. Dominic and P. Singh (2001) Floristic abundance of relative distribution of different Cyanobacterial genera in rice field at different crop grow stages. Phytos. 40: 15-22.
10. Nimbhore, B.S. and Jadhav, M.J. (2014) Algal flor of Brinjal field soil of Aurangabad. Bioscience discovery. 5(1): 42-44.
11. Nimbhore, B.S. and Jadhav, M.J. (2014) Soil algal flora of wheat field. Journal of Science Information. 5(1): 31-36.
12. Patil, S.R. and Chaugule, B.B. (2004) Species diversity in paddey field, blue-green algae of the western Maharashtra. Abstmet Nat. Symp. Bist and Biodiversity of the fresh water algae. CAS, University of Madras: 30.
13. Prasad, V. (2005) Algal and Cyanobacterial distribution in the wheat fields of Bara, Parsa and Rauth at Nepal. Int. J. Meidel. 22(3-4): 77-78.



DIVERSITY OF SOIL ALGAE IN WHEAT FIELDS OF AHMEDNAGAR DISTRICT

Certificate of Publication

ISSN No: 2249-555X | Index Copernicus (IC) Value : 86.18 | Impact Factor: 4.894

This is to certify that

Mr./Mrs./Ms./Prof./Dr. **SWATI G. WAGH**

has contributed a paper as author/ Co-author to

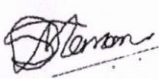
INDIAN JOURNAL OF APPLIED RESEARCH


A Peer Reviewed, Referred, Refereed & Indexed International Journal


Title "DIVERSITY OF SOIL ALGAE IN WHEAT FIELD OF AHMEDNAGAR DISTRICT (M.S.)


and has got published in volume 07, Issue 12, DECEMBER-2017

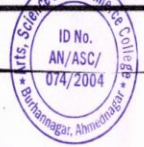
The Editor in Chief & The Editorial Board appreciate the Intellectual Contribution of the author/co-author


426 Executive Editor


Editor in Chief


Member, Editorial Board





**DIVERSITY OF SOIL ALGAE IN WHEAT FIELDS OF
AHMEDNAGAR DISTRICT**



On

"Advances in Life Science and Human Welfare."



Sponsored By : B.C.U.D Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Organized By

Department of Botany

DR. RAFIQ ZAKARIA COLLEGE FOR WOMEN

Navkhanda Palace, Jublee Park, Aurangabad - 431001, Maharashtra State

CERTIFICATE

This is to certify that Dr. /Mr./Mrs./Miss.

Swati G. Wagh.

Has Actively Participated in the National Conference on "Advances in Life Science and Human Welfare" held on

18th February 2017 As Delighted He/She has also participated / Presented authorised Scientific research paper entitled

"Soil Algae of Onion field of Ahmednagar District (M.S)."

at Department of Botany Dr. Rafiq Zakaria College for women, Aurangabad.

Dr. Sumia Fatima

Organizing Secretary

Head, Dept. of Botany

Dr. Rafiq Zakaria College For Woman Aurangabad

Dr. Mazhar Farooqui

Principal

Dr. Rafiq Zakaria College For Woman

Aurangabad



SOIL ALGAE OF ONION FIELD OF AHMEDNAGAR DISTRICT



DEPARTMENT OF BOTANY

Dr. Rafiq Zakaria
College for Women, Aurangabad



◆ Organizing ◆
National Conference
on

“Advances in Life Science and Human Welfare.”

Sponsored By

Director B.C.U.D.,
**Dr. Babasaheb Ambedkar Marathwada
University Aurangabad.**

Date : 18/02/2017

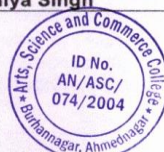
◆ Venue ◆

Dr. Rafiq Zakaria College for Women

SOIL ALGAE OF ONION FIELD OF AHMEDNAGAR DISTRICT

Dr.RZCW, A'bad 978-93-85426-28-5

24	Medicinal Uses Of The Family Euphorbiaceae In Marathwada Ravi Patil, Anilkumar Pardeshi, Kshirsagar A.A.* & Solanke S.N.**	95
25	Seasonal Variation of Algae from Bendusara Dam in Beed District of Maharashtra (India) Santosh Mahadeo Talekar and *Anil Shelke	98
26	Effect of ethyl methane sulphonate and sodium azide mutagens in chlorophyll sectors in M2 generation in chickpea (<i>Cicer arietinum</i> L.) Navnath G. Kashid*, Mukund P. Kulthe** & Santosh M. Talekar***	100
27	The relation between pH andradial growth & sclerotia formation of <i>Sclerotium rolfsii</i> causing root rot in chilli Uzma Quadri & Sumia Fatima	103
28	Ethanobotanical Study Of Ocimum Sanctum Jige Sandipan Babasaheb, Pawar Subash Bhama	105
29	Soil Algal Flora Of Sugarcane Field Balasaheb S. Nimbhore and Milind J. Jadhav	108
30	Diversity Of Fungal Endophytes On <i>Ocimum Sanctum</i> Doli Jain and Suchita Rajurkar	111
31	Anatomical and Pharmacognostic studies of <i>Oxalis corniculata</i> L. and <i>Oxalis rechardiana</i> Babu. (Oxalidaceae) Sangeeta S.Sutar,Dharasurkar A.N. ,Bagmar C.M.	113
32	Application of Root Zone Technology : Alternative Approach for Traditional Wastewater Treatment Technology. Pradeep Jadhav¹, Kshama Khobragade²	115
33	A Preliminary Study On Airborne Algae Of Lonar Crater Rafiullah M.Khan¹ And Milind J. Jadhav²	118
34	Green remedies for the treatment of Kidney stones in Aurangabad (M.S). Rathod Krishna, Rathod Nikhil, I.H.Zahid, and Rafiuddin Naser	120
35	Algal Flora Of Oil Mill Waste Water Satish D. Magar¹ and Milind J. Jadhav²	124
36	Diatoms of Khelna reservoir in Aurangabad District of Maharashtra J.H.Sawdekar¹ and Milind J.Jadhav²	126
37	Diversity Of Cyanobacteria Over Water Reservoir Sunita V. Jawale¹ and Milind J. Jadhav²	128
38	Soil Algae Of Onion Field Of Ahmednagar District (M.S.) Swati G. Wagh¹ And Milind J. Jadhav²	130
39	Physico-Chemical Profile Of Salim Ali Lake In Aurangabad(M.S.) India. Sumia Fatima & Shaikh Yasmeen	133
40	Post-harvest mycoflora of different amla varieties (<i>Emblica officinalis</i> L.) *Sonawane B. N. **Sumia Fatima And *** Arsule C. S.	136
41	Diversity of fungal spores over Groundnut fields at Aurangabad District (MS) Swati Gaikwad and Suchita Rajurkar	138
42	Atomospheric Concentraon Of <i>Curvularia Spores</i> Over Sunflower Fields G. M. Pathare	141
43	Studies Of Advanced Technology In Digital Science For Human Welfare Gokul G. Harale	143
44	Assessment of Seed Mycoflora of Charoli (<i>Buchanania lanzan</i>) Baig Mumtaz And Sumia Fatima	146
45	Studies on host range of <i>Alternaria alternata</i> isolated from <i>Ocimum santum</i> . Sumia Fatima and & Jadhav Reena Girdharilal,	150
46	Studies on Leaf Spot Diseases of Medicinal Plants at Toranmal Area of Nandurbar District Sumia Fatima and & Jadhav Reena Girdharilal,	153
47	Effect Of Storage Condition On Stability Of B-Carotene Of Some Leafy Vegetables Manisha G. Sonkamble, Laxman R. Shimple and Narayan B. Pandhure	157
48	An Article Review: Fungal Diseases In Human Beings. Prof. Sheela Shrivastava & Prof. Khimiya Singh	160



SOIL ALGAE OF ONION FIELD OF AHMEDNAGAR DISTRICT

Dr. Rafiq Zakaria

College
for Women



Soil Algae Of Onion Field Of Ahmednagar District (M.S.)

Swati G. Wagh¹ And Milind J. Jadhav²

¹ Department of Botany, Shri. Baneshwar Arts, Commerce and Science College, Burhannagar, Ahmednagar, 414002. (M.S.) India.

² Department of Botany, Sir Sayyad College, Roshan Gate area, Aurangabad, 413001. (M.S.) India.

ABSTRACT Soil algae are significant component of soil microflora. They play a significant role in soil fertility. Present Research work deals with the study of Algal flora of Onion (*Allium cepa* L.) field soil. Algal samples from moist places of onion field were collected at regular intervals from October 2015 to January 2016. Bold's basal medium was also used to culture algae from soil of onion field. Collected algal samples were observed thoroughly under research microscope and identified with help of standard literature on algae. Total of 28 species under 20 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded. Algal forms *Gleocystis*, *Chlorococcium*, *Nitzschia*, *Aphanothece*, *Oscillatoria*, *Phormidium*, *Lyngbya* and *Microcoleus* were found dominant in order of their abundance. Physicochemical analysis of onion field soil was also performed by selecting certain physicochemical parameters such as pH, Electrical conductivity, and Organic carbon, available Nitrogen, available Phosphorus and available Potassium to understand fertility status of soil. Algal flora of onion field is rich and it is in diverse form.

KEY WORDS: - Algal Flora, Soil and Onion field.

INTRODUCTION

Soil algae are those algae which are found on or in the soil. They play an important role in a fertility of soil Cyanophycean algae fixes atmospheric nitrogen. Soil algae have attracted the attention of Phycologists since past few decades. (Meeting 1981, Bongale 1985, Prasad 2005, Auti and Pingle 2007, Jadhav 2010, Nimbhore and Jadhav 2014.) Soil algal diversity study of paddy, banana, wheat, sugarcane and brinjal fields has been well documented. (Bongale and Bharati 1980, Kolte and Goyal 1985, Kottawar and Pachpande 1986, Nayak et. al. 2001, Patil and Chaugule 2004, Prasad 2005, Auti and Pingle 2006, Nimbhore and Jadhav 2014.) Onion (*Allium cepa* L.) is one the important vegetable crops of India. Extensive review of literature reviews that very rare attention has been paid towards algal flora of onion field. Therefore to fulfill this lacuna it has been decided to work on algal flora of onion field.

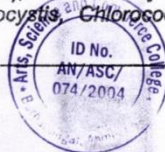
MATERIAL AND METHODS

An Onion field from Ahmednagar tehsil area has been selected for soil algal samples collections. Algal patches were collected from moist places of selected onion fields at regular interval from October 2015 to January 2016. Algal samples were collected in sterilized collection bottles. Collected algal samples were brought to the laboratory and observed thoroughly under research microscope and identified with the help of standard literature of algae.

RESULTS AND DISCUSSION

Total of 28 species under 20 genera of algae belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded from onion field of Ahmednagar tehsil area. Of these 6 species under 6 genera belonged to Chlorophyceae, 5 species under 5 genera belonged to Bacillariophyceae and 17 species under 9 genera belonged to Cyanophyceae (Table 1). Cyanophycean algal taxa dominated algal flora. Similar kinds of observation were made by earlier researchers (Bongale and Bharati 1984, Cheporkar and Gangawane 1984, Kottawar and Pachpande 1986, Auti and Pingle 2006, Jadhav 2010, Nimbhore and Jadhav 2014).

Classwise percentage contribution study of algal flora of onion field reveals that highest contribution was of Cyanophyceae (60.75%), followed by Chlorophyceae (21.40%) and Bacillariophyceae (17.85%). Algal taxa *Gleocystis*, *Chlorococcium*, *Nitzschia*, *Aphanothece*,



SOIL ALGAE OF ONION FIELD OF AHMEDNAGAR DISTRICT

978-93-85426-28-5

Oscillatoria, *Phormidium*, *Lyngbya* and *Microcoleus* were found dominant in order of their abundance. *Chlorococcum humicola* was abundant in onion field. It is important constituent of soil algal flora of various parts of world. Unicellular, colonial and filamentous algal forms were recorded present research work. Filamentous algal forms were found in maximum number.

Physicochemical analysis of onion field soil reveals fertility status of soil. The overall fertility status of selected onion field was moderate alkali (pH 8.15), Electrical conductivity is normal (0.38 milimhos/centimeter). Organic carbon low (0.38%), low available nitrogen (159.93 Kg/hectare), low available Phosphorous (10.97 Kg/hectare), where as available Potassium (392 Kg/hectare). Cyanophycean algae are found dominant in alkaline soil. Normal electrical conductivity supports growth of algae.

CONCLUSION

A total of 28 species under 20 genera of algae were recorded from the soil of onion field. Cyanophycean algae were found dominant than Chlorophyceae and Bacillariophyceae. Unicellular, colonial and filamentous algal forms were recorded present research work. Filamentous algal forms were found in maximum number. Algal flora of onion field is rich and it is found in diverse form. Moderate alkaline nature and normal electrical conductivity of soil supports growth of algae especially Cyanophycean algae.

Table 1: Diversity of Soil Algae from Onion field

Chlorophyceae <i>Gloeocystis major</i> , <i>Oedogonium sp.</i> , <i>Chlorococcum humicola</i> , <i>Trochisci aspera</i> , <i>Spirogyra sp.</i> , <i>Cosmarium subumidium</i> .
Bacillariophyceae <i>Pinnularia sp.</i> , <i>Gomphonema</i> , <i>Cymbella aspera</i> , <i>Nitzschia palea</i> , <i>Suriella ovata</i> .
Cyanophyceae <i>Aphanothece nidulans</i> , <i>Aphanothece saxicola</i> , <i>Merismopedia tenuissima</i> , <i>Myxosarcina burmensis</i> , <i>Oscillatoria acuminata</i> , <i>Oscillatoria subbrevis</i> , <i>Phormidium abronema</i> , <i>Phormidium jenkelianum</i> , <i>Phormidium molle</i> , <i>Phormidium usterii</i> , <i>Lyngbya hieronymusii</i> , <i>Lyngbya major</i> , <i>Microcoleus acutissimus</i> , <i>Microcoleus lacustris</i> , <i>Microcoleus subtorulosus</i> , <i>Cylindrospermum michaelovskaense</i> , <i>Nostoc muscorum</i> .

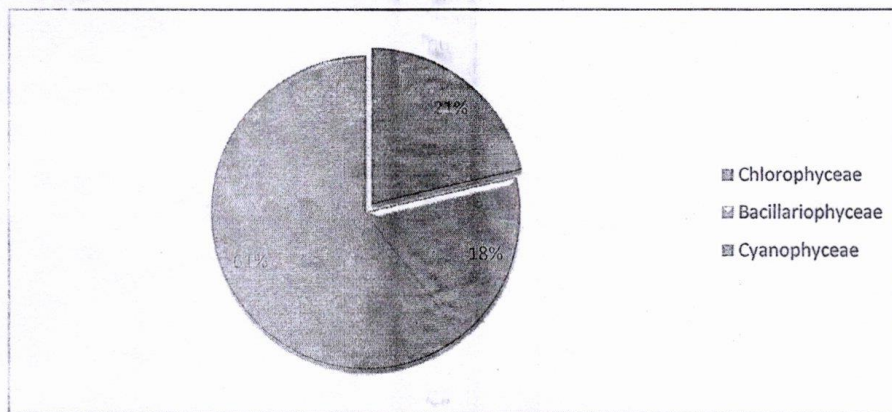


Fig.1: Classwise Percentage Contribution of algal flora of Onion Field Soil

Table 2: Physicochemical analysis of onion field soil

Sr No.	Parameter	Observation	Fertility Status
1	pH	8.15	Moderate Alkali
2	Electrical Conductivity (milimhos/centimeter)	0.38	Normal
3	Organic Carbon (%)	0.39	Low

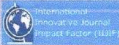
SOIL ALGAE OF ONION FIELD OF AHMEDNAGAR DISTRICT

4	Available Nitrogen (Kg/hectare)	159.93	Low
5	Available Phosphorous (Kg/hectare)	10.97	Low
6	Available Potassium (Kg/hectare)	392	High

REFERENCES


- Auti B K and Pingle S D, 2006. Nostocales from Northern circle of Ahmednagar district (M.S.) *Indian Hydrobiology*, 9(2): 147-150.
- Auti B K and Pingle S D, 2007. The Myxophyceae of the Arable lands from Ahmednagar district (M.S.) *Ad. Plant Sci.* 20(II): 387-389.
- Bongale U D, 1985. Systematic account of diatoms from the cultivated soils of karnataka sate, India. *Phykos*, 24: 18-26.
- Bongale U D and Bharati S G, 1980. On the algal flora of cultivated soils of karnataka sate, India. *Phykos*, 19(1): 95-109.
- Chaporkar C B and Gangawana L V, 1984. Blue green alge of some cultivateed soils of Marathawada, Maharashtra. *Phykos*, 23: 55-58.
- Jadhav Milind, 2010. Algal diversity of Sorghum fields. *The Biosphere*, 2(1): 89-90.
- Kolte S O and Goyal S A, 1985. Distributional pattern of blue green alge in rise field soils of Vidarabha region of Maharashtra state. *Phykos*, 19(1): 95-109.
- Kottawar S T and Pachpande P R, 1986. Additions to the soil algae of Banana fields of Jalgaon district (Maharashtra). *Indian Bot.Reporter*, 5(2): 130-133.
- Metting B, 1981. The Systematics and Ecology of soil algae. *Bot. Rev.*, 47(2): 196-312.
- Nayak S R and Prasanna, T Dominic and P. Singh, 2001. Floristic abundance of relative distribution of difference Cyanobacterial genera in rice field soil at different crops growth stages. *Phykos*, 40: 15-22.
- Nimbhore B S and Jadhav M J, 2014. Algal flora of Brinjal field soil of Aurangabad. *Bioscience discovery*, 5(1): 42-44.
- Nimbhore B S and Jadhav M J, 2014. Soil Algal flora of Wheat field. *Journal of Science Information*, Vol. 5(1): 31-36.
- Patil S R and Chaugule B B, 2004. Species diversity in paddey field blue – green algae of the western Maharashtra. *Abs, Nat Symp. Bist and Biodiversity of the fresh water algae* CAS. University of Madras: 30.
- Prasad V, 2005. Algal and Cyanobacterial distribution in the Wheat fields of Bara, Parsa and Rautah at (Nepal). *Int., J. Mende22* (3-4): 77-78.
- Santra S C, 1983. Biology of rice field blue-green algae. *Daya Publishing House, New Delhi*. 184.

ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE

	Impact Factor : 3.541	Peer-Reviewed Journal	ISSN : 2278 – 5639
Global Online Electronic International Interdisciplinary Research Journal (GOEIJR)			
THEME : ROLE OF PSYCHOLOGY IN SPORTS			
{Bi-Monthly}	Volume – V	Special Issue – IV	January 2017

Sr. No.	Author Name	Title	Page No.
85.	Narke Vitthal Gambhirrao, Dr. D. R. Bhakt	BENEFITS OF PHYSICAL ACTIVITIES : HUMAN HEALTH	436 to 437
86.	Ghorpade Santosh Shahurao, Dr. B. N. Gapat	A STUDY ON THE LEVEL OF BODY MASS INDEX (BMI) AMONG THE STUDENTS	438 to 441
87.	Patel Shaikh Ajhar Shaikh Abdul Wahed	A STUDY OF MENTAL HEALTH AMONG ATHLETE AND NON-ATHLETE STUDENTS OF AURANGABAD CITY	442 to 446
88.	Amardip Mohan Ambhore Dr. Parmeshwar A. Puri	EMOTIONAL INTELLIGENCE AND LEVEL OF TENSION AMONG SPORTSMAN	447 to 451
89.	Amruta Ashok Magar	EMOTIONAL MATURITY AMONG MALE SPORTS PERSON AND FEMALE SPORTS PERSON	452 to 455
90.	Amrapali Mahadeo Jogdand	STUDY OF PERCEIVED MENTAL HEALTH AMONG ATHLETES AND NON-ATHLETES	456 to 459
91.	Manisha Narayan Punde, Dr. Chatrpati Bburao Vairagar	ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE	460 to 464
92.	Mr. K. G. Shivankar	EFFECTS OF EXERCISE ON SYCHOLOGICAL FACTORS	465 to 467
93.	Subhash Sahebrao Devre, Dr. Gaikwad U. S.	MENTAL HEALTH AND SELF-CONFIDENCE AMONG COLLEGE LEVEL KABBADIAND KHO-KHO PLAYERS	468 to 473
94.	Rohidas J. Gadekar, Dr. Shekhar Shirsat	MENTAL STRESS: CONCEPT, EFFECT ON SPORTS PERFORMANCE AND DEALING WITH MENTAL STRESS	474 to 475
95.	Digambar R. Jadhav	STRESS AND MENTAL HEALTH AND AMONG URBAN AND RURAL CRICKET PLAYERS	476 to 479
96.	Vijay Kaduba Gadekar Dr. D. S. Ramteke	A STUDY OF ADJUSTMENT IN FARMER AND SPORT PERSONALITIES IN AURANGABAD DISTRICT	480 to 484
97.	Sandeep Sadashivrao Shinde Sushama Narayan Chougule	COPING WITH STRESS	485 to 489
98.	Sushama Narayan Chougule	POWER OF MOTIVATION	490 to 492
99.	श्री. राहुल सारस्वत आणि डॉ. हेमंत वर्मा	शारिरीक शिक्षा में मनोविज्ञान	493 to 496
100.	Jayram Ghoti, Arajunsing Thakur, Sunil Patil	POSITIVE & NEGATIVE EFFECT OF SPECTATORS ON THE SPORTS PERFORMANCE	497 to 501

ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE

	Impact Factor : 2.521	Peer-Reviewed Journal	ISSN : 2278 – 5639
Global Online Electronic International Interdisciplinary Research Journal (GOEIJR)			
THEME : ROLE OF PSYCHOLOGY IN SPORTS			
{Bi-Monthly}	Volume – V	Special Issue – IV	January 2017

ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE

Manisha Narayan Punde
Research Scholar Of
Dr. Babasaheb Ambedkar Marathwada
University Aurangabad.

Dr. Chatrpati Bburao Vairagar (Pangarkar),
Swantatraveer Savarkar Mahavidyalaya,
Beed

ABSTRACT:

We always say “take a sportily”, if someone hearted by other one. So we know only the sport activity always releasing mental presser. Sports helps an individual much more than in the physical aspects alone. It builds character, goal setting and risk taking ,teaches and develops strategic thinking, analytical thinking, leadership skills. Despite extensive research devoted to determining the nature of the relationship between stress and performance, there has been little systematic examination of the mechanisms underlying this relationship. Anxiety in sport is most common in competitive sports environments and could also be termed competitive stress. A lack of consensus makes it difficult to clearly define anxiety and stress in sports. Although emotional intelligence is still a relatively new term in sport, it is certainly not a new concept. For years we have marveled at how the great athletes are able to “switch themselves on” to create amazing performances with incredible consistency.

Emerging evidence indicates that gaze behaviour tendencies are reliably altered when performers are anxious, leading to inefficient and often ineffective search strategies. Alterations of these visual search indices are addressed in the context of both self-paced and externally paced sports events. Recommendations concerning the utility of perceptual training programmes and how these training programmes might be used as anxiety regulation interventions are discussed. The theoretical implications and directions for future research are also addressed.


KEYWORDS: Goal setting, Leadership skills, , Psychology, Risk taking, Sports, Strategic thinking, Psychology in sports, Emotional Intelligence

INTRODUCTION:

Not all stress is bad for your performance. Stress can affect your performance in two different ways. Stress can help you when it makes you more alert, more motivated to practice, and gain a competitive edge. In the right amount, **stress helps you prepare**, focus, and perform at your optimal level. Conversely, too much stress, or bad stress, can cause performance anxiety, which hurts your health and does not allow you to play relaxed, confident, and focused in competition.

“You’re always going to be nervous teeing it off for Championship. It’s very natural

www.goelirj.com ISSN 2278-5639 Page 46



ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE

International Innovative Journals Impact Factor (IIJIF) **Impact Factor : 2.521** Peer-Reviewed Journal **ISSN : 2278 – 5639**
Global Online Electronic International Interdisciplinary Research Journal (GOEIJR)
THEME : ROLE OF PSYCHOLOGY IN SPORTS
{Bi-Monthly} **Volume – V** **Special Issue – IV** **January 2017**

and it's a good thing. It means that you want it."

In a nutshell, Emotional Intelligence is the ability to identify, assess and manage the emotions of you, of others, and of groups.

Emotional intelligence is defined as "the ability to recognize your own emotional state, that is how you are feeling". Coaching is more than just the instruction of skills and drills. It is also about building quality relationships and having the emotional expertise build those relationships. In sports psychology it is called **Emotional Intelligence (EI)**.

EI Strategies:

If we accept Emotional Intelligence refers to the ability to:

1. perceive emotion (and recognise their meanings)
2. use emotions to facilitate thought (understand their relationship);
3. understand emotions (including recognising those of others); and
4. manage emotions (manage relationships with others)

Emerging evidence indicates that gaze behaviour tendencies are reliably altered when performers are anxious, leading to inefficient and often ineffective search strategies. Alterations of these visual search indices are addressed in the context of both self-paced and externally paced sports events. Recommendations concerning the utility of perceptual training programmes and how these training programmes might be used as anxiety regulation interventions are discussed. The theoretical implications and directions for future research are also addressed.

As Psychology in sports, we want to develop not physical but also following development. Sporting attitude/spirit, Positive attitude towards life and its struggles, Shaping one's personality and character. We are all well aware of the fact that participating in sports/physical activity develops the five components of fitness, namely: strength, speed, skill, stamina and flexibility.

Also we know effect of sports. 'Healthy Mind In a healthy Body', and 'Healthy Body in a Healthy Mind'. Both these statements are 100% true.

Then what are sports do:

- Sports improve sleep patterns and levels of anxiety.
- Sports develops motor skills and mind/body connection.
- Sports staves off depression.
- Sports are exercise/physical activity with fun, 'masti'.
- Sports are exercise/physical activity with an objective and definite aim.
- A sport is exercise/physical activity with a purpose to overcome adversities and win.

ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE



Impact Factor : 2.521

Peer-Reviewed Journal

ISSN : 2278 – 5639

Global Online Electronic International Interdisciplinary Research Journal (GOEIJR)

THEME : ROLE OF PSYCHOLOGY IN SPORTS

{Bi-Monthly}

Volume – V

Special Issue – IV

January 2017

- Playing sports helps release pressure and tension in a healthy and controlled way.
- A sport reduces the risk of many physical diseases.

I. Sports in psychology and life:

A Sport is a learning experience. Of all who take up sports only one may eventually become a champion, but definitely all will be winners. Sports has helped me and the principles of sports continue to help me through difficult times. Sports help students study better, improves concentration, problem solving, and memory. A sport teaches one to develop the following:

1. Leadership skills: Lead different people from all walks of life towards a common goal/objective. A good leader is one who leads others on to leadership.
2. Team spirit: Working towards a common goal as a member of a team, selflessly, personal interests notwithstanding.
3. Never give up: Sports teaches you to never give up. 'Success is just round the bend', being persistent, nothing is impossible. You never know how close you are to success when you give up.
4. Great leveler: Sport is a great leveler - you lose 1-day only to bounce back the next. No loss is permanent. Even a loss teaches you how not to do something, or how it could be done better. No setback is permanent, never should one lose hope.
5. Focus: Sport teaches you to focus on the present. Past is irrelevant, and future, who knows?
6. Strengths and abilities: Sport teaches you to focus on your strengths and abilities, not on your opponents' strengths and capabilities.
7. Process and result: Sport teaches you that the process is more important than the result. If the process is right, success will soon ensue.
8. Planning: Sport teaches you to plan ahead, see through the consequences of your act. You need to quickly assess the situation, adjust, adapt and act accordingly. Being flexible and not carry a fixed mindset.

II. Psychology in sports:

We know important aspects of psychology in sports which are as follows:

1. Positive attitude: It is often said a game is won or lost in the locker room before the start of the match. Having a positive attitude goes a long way in determining the eventual outcome of the game between closely matched participants.
2. Always have a positive body language.
3. 'Killer instinct' is necessary at all times. By this, you are giving due respect to your opponent and acknowledging the fact that he/she is as good as you, and the slightest slackness shown

ROLE OF PSYCHOLOGY IN SPORTS: ANXIETY, STRESS AND INTELLIGENCE

Impact Factor : 2.521 Peer-Reviewed Journal ISSN : 2278 – 5639
Global Online Electronic International Interdisciplinary Research Journal (GOEIJ)
THEME : ROLE OF PSYCHOLOGY IN SPORTS
{Bi-Monthly} Volume – V Special Issue – IV January 2014

by you will allow your opponent to claw back and the outcome of the game may easily be reversed.

4. Never give up attitude: As mentioned in section above, however hopeless the situation may seem success is just around the corner. No match is won till the last ball is bowled. Play to your strength, give it your best, enjoy the game, you have nothing to lose. Loss is not the end, there is no shame, disrespect, humiliation, provided you have given your best.
5. Fear of losing will increase your anxiety and cause distress and hence leading to poor performance and undesirable results.
6. Never bother about consequences, give it your best shot always, and enjoy the game.
7. Respect for the opponent is necessary but do not let this overwhelm you. Respecting their abilities, giving your best always, and no casualness in approach even when comfortably placed. Remember on a given day anything and everything is possible.

Figure A shows: summarizing points of paper as follows:

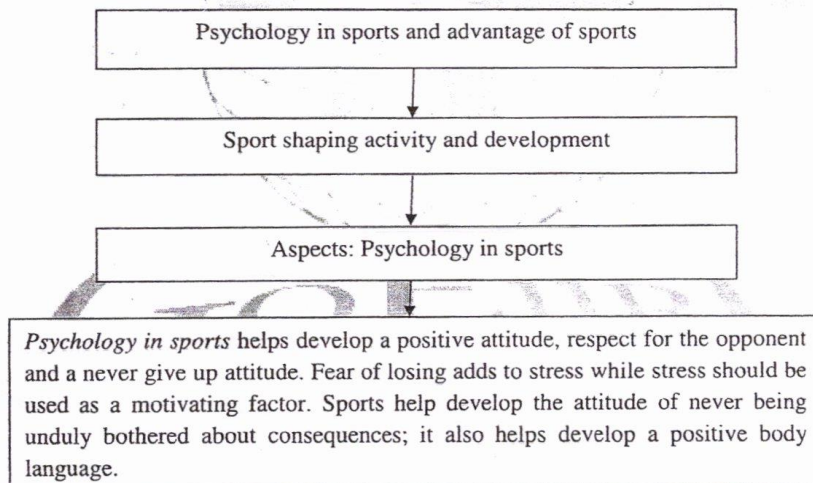
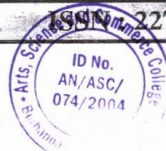


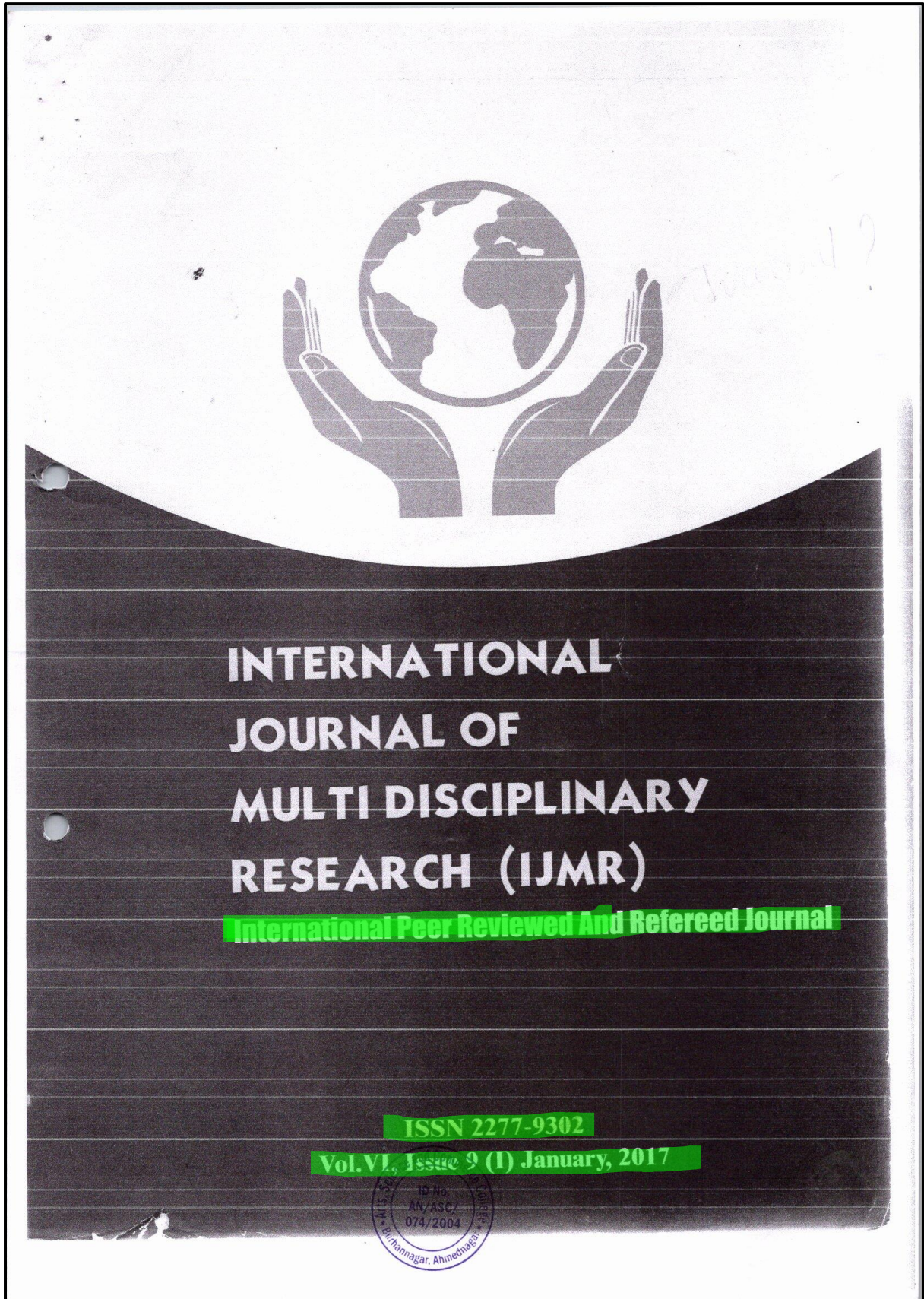
Fig. A

CONCLUSION:

Playing sports activities play an important part in one's personality development. We develop management skills, negotiation skills, communication skills, convincing skills, conflict management and confidence.

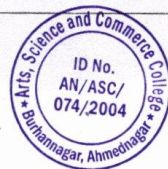


SPORTS AND SCIENCE



SPORTS AND SCIENCE

21	VISION AND CHALLENGES OF INTERNET OF THINGS (IOT) Sonali M. Chaudhari
	AN EVOLUTION OF VAN BANDHU KALYAN YOJANA TO DEVELOPMENT OF THE PEOPLE IN TRIBAL TALUKAS OF GUJARAT – VANSADA AND VALSAD BASED ON TIME SERIES ANALYSIS AND T-TEST
22	Krunalsinh Ishwarsinh Khengar
	SUSTAINABLE GROWTH OF ECOFRIENDLY SYNTHESIS IN CHEMICAL SCIENCES: A REVIEW
23	Dr. Mrs kalpana R Rathod
	CHEMOINFORMATICS AND BIOINFORMATICS: THE TRENDING SCIENCES
24	Dr Shivani P.Banerjee
	ROLE OF GOOD LIBRARY PRACTICES & PROBLEMS BEING FACED BY LIBRARY PROFESSION.
25	Madhav Shivram Munde
	CURRENT TRENDS OF LIBRARY CONSORTIA IN INDIA
26	Dr. Satyaprakash M. Nikose
	STUCCO SCULPTURES OF KANAKAGIRI
27	Geeta Police Patil
	"POPULATION DYNAMICS OF NEMATODE PARASITES IN JOHNIUS DUSSUMIERI FROM THANE DISTRICT, MAHARASHTRA, INDIA.
28	Sapna B.Sharma
	PORTRAYAL OF WOMEN IN SELECT PLAYS OF SHAKESPEARE:A STUDY IN FEMINIST PERCEPTION
29	Dr. Priyakant Ved
	PHILOSOPHICAL INTUITIONS AND THEIR EPISTEMIC STATUS
30	Dr. Kiran J. Save
	REBELLION IN THE NOVELS OF SUZANNE COLLINS AND MARGARET ATWOOD: A COMPARATIVE STUDY WITH REFERENCE TO "THE HUNGER GAMES" AND "THE HANDMAID'S TALE"
31	Ms. Nicol D'souza
	"THE VESTIBULATOR" A REVOLUTIONARY INNOVATION FOR HUMAN VESTIBULAR STIMULATION TO SOLVE GLOBAL PROBLEM OF CEREBRAL PALSY AND AUTISM"
32	Anis Ahmed B. Choudhery & Aaliya Baig
	CONFLICT REFLECTED IN DATTA BHAGAT'S 'ROUTES AND ESCAPE ROUTES' : A THEMATIC STUDY
33	Mr. Uttam Bhagat
	SPORTS AND SCIENCE
34	Prof. Manisha Narayan Punde
	E-THESES OPEN ACCESS REPOSITORIES IN INDIA: A STUDY
35	Godbole Sheela K & Dr. Ramdas Lihitkar
	विज्ञान युगातील धर्माचे स्वरूप
36	प्रा. सुनिलदत्त एस. गवरे
	भारतीय अर्थव्यवस्थेत आर्थिक नियोजन आणि विकास यांची आवश्यकता
37	प्रा. मिना लक्ष्मण मुळीक
	इयत्ता सातवीच्या विद्यार्थ्यांना समायोजनात येणाऱ्या अडचणीचा शोध व उपाययोजना
38	सरिता पांडू खेतावत चव्हाण
	राहुल सांकृत्यायन का इतिहास लेखन और दृष्टीकोन
39	प्रवीण बोरकर
	गर्भाण माहित्य आणि जागतिकीकरण
40	प्रा.शिखरे जी. वाय
	निश्चलनीकरण आणि पर्यटन
41	कु. अनिवेग्त सुभाष पांचाळ



SPORTS AND SCIENCE

International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

SPORTS AND SCIENCE

Prof. Manisha Narayan Punde

Shri Baneshwar Art's, Commerce And Science
Collegeburhannagar, Ahmednagar

Introduction:-

Sports science is a discipline that studies how the healthy human body works during exercise, and how sport and physical activity promote health from cellular to whole body perspectives. The study of sports science traditionally incorporates areas of physiology (exercise physiology), psychology (sport psychology), anatomy, biomechanics, biochemistry and biokinetics. Sports scientists and performance consultants are growing in demand and employment numbers, with the ever-increasing focus within the sporting world on achieving the best results possible. Through the study of science and sport, researchers have developed a greater understanding on how the human body reacts to exercise, training, different environments and many other stimuli. mSports Science can trace its origins to ancient Greece. The noted ancient Greek physician Galen (131–201) wrote 87 detailed essays about improving health (proper nutrition), aerobic fitness, and strengthening muscles. Assyrian Hunayn ibn Ishaq translated Galen's work, along with that of Hippocrates, into Arabic which led to the spread of Greek physiology throughout the Middle East and Europe. Between 776 BC to 393 AD, the ancient Greek physicians planned the training regimens and diets of the Olympic competitors.

New ideas upon the working and functioning of the human body emerged during the renaissance as anatomists and physicians challenged the previously known theories. These spread with the implementation of the printed word, the result of Gutenberg's printing press in the 15th century. Allied with this was a large increase in academia in general, universities were forming all around the world. Importantly these new scholars went beyond the simplistic notions of the early Greek physicians, and shed light upon the complexities of the circulatory, and digestive systems. Furthermore, by the middle of the 19th century early medical schools (such as the Harvard Medical School, formed 1782) began appearing in the United States, whose graduates went on to assume positions of importance in academia and allied medical research.

Principle of anatomy and physiology:-

- 1 Know the structure and function of the skeletal system
- 2 Know the structure and function of the muscular system
- 3 Know the structure and function of the cardiovascular system
- 4 Know the structure and function of the respiratory system
- 5 Know the different types of energy systems

Sports physiology is the study of the long-and short-term effects of training and conditions on athletes. This specialized field of study goes hand in hand with human anatomy. Anatomy is about structure, where physiology is about function.

Sports Training Principles are heavily rooted in this field. Effects of body composition, flexibility training, hydration, environmental conditions, and carbohydrate loading on athletic performance are only a few of the topics explored in this field.

Exercise physiologists, physicians, and athletic trainers can apply research findings from studies to advise athletes on topics concerning nutrition, sport-related injuries, and other issues related to sports medicine.

The Human Muscular System in Athletic Performance

The human muscular system is the machinery that drives athletic performance. Among their functions, the more than 600 skeletal muscles generate skilled movements and produce energy for sport-specific competition. Muscles have a specialized ability to contract. These contractions pull on the bones of the skeleton to cause movement. Movement can be very basic, such as moving an arm, or leg, or breathing; or they can create highly coordinated skills, such as swimming or throwing a ball.

Muscles maintain posture and body position. They are active just for standing, as well as to help stabilize your spine when lifting heavy weights overhead. Muscles also maintain body temperature. When muscles

138



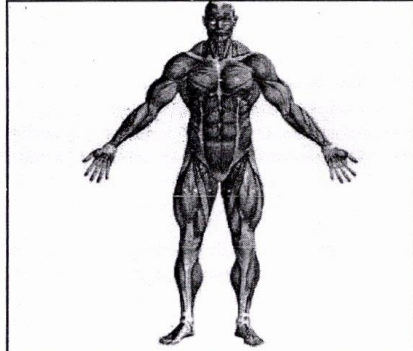
Vol. VI, Issue 9 (I) January, 2017

SPORTS AND SCIENCE

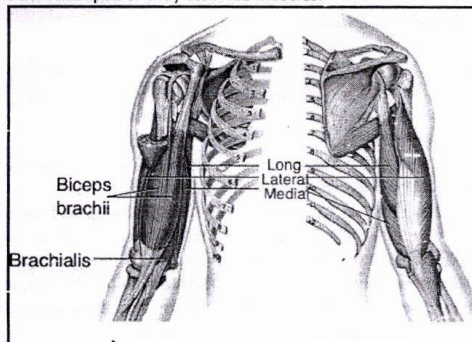
International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

contract they produce energy, some of which is converted into heat. Heat keeps the body temperature within the range for normal functioning.

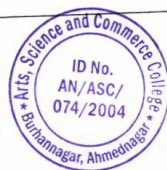


The brain and nervous system are the conductors of the muscular system. Athletes make decisions to make particular movements to execute skills, and the nervous system transmits the signals to the muscles so that they generate exact amount of force in the right direction at the right time. Over time, precision improves as the athlete repeats and refines skills. The human muscular system also works in concert with other body systems, such as the cardiovascular and respiratory systems, which supply oxygen and nutrients for energy. Muscles do not work individually. They function in groups to generate efficient movement. For example, while the elbow flexors (biceps) contract when performing a curls (called agonists), the elbow extensors (triceps) extend (called antagonists). A synergist helps a larger agonist work efficiently. Synergists provide additional pull or may stabilize muscles.



To perform a single athletic skill many, many muscles work in concert. Simply walking requires around 200 skeletal muscles. It takes 40 muscles to raise one leg and move it forward. Imagine how many muscles are involved in sprinting or shooting a basketball! To be successful, the athlete must not only learn to smoothly coordinate all muscles for all skills, he or she must also develop sport fitness that prepares the body to perform at its best throughout the competition. Training builds the right combination of fitness components as the muscular system adapts in specific ways to repeated activity.

For example, when the athlete adds resistances in training regimens, the active muscles adapt by getting stronger and larger. When endurance is built, the muscles use oxygen more efficiently and the blood supply improves. The human muscular system makes all the right adjustments to help the athlete improve sport performance.



SPORTS AND SCIENCE

International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

THE CARDIOVASCULAR SYSTEM AND EXERCISE

The cardiovascular system serves five important functions during exercise:

- 1) Delivers oxygen to working muscles
- 2) Oxygenates blood by returning it to the lungs
- 3) Transports heat (a by-product of activity) from the core to the skin
- 4) Delivers nutrients and fuel to active tissues
- 5) Transports hormones

Exercise places an increased demand on the cardiovascular system. Oxygen demand by the muscles increases sharply. Metabolic processes speed up and more waste is created. More nutrients are used and body temperature rises. To perform as efficiently as possible the cardiovascular system must regulate these changes and meet the body's increasing demands.

Below we will examine the acute or immediate response to exercise and also the long-term adaptations that take place in the cardiovascular system with repeated exercise. The most important aspects of the cardiovascular system to examine include:

- Heart rate
- Stroke volume
- Cardiac output
- Blood flow
- Blood pressure
- Blood

Muscles Work Together in Sport Skills

Knowing how muscles work together to produce skilled movements impacts your choice of training activities. Muscles play different roles and contract in different ways. Experienced athletes learn to execute precise sport skills by practicing movements that work in sync in a variety of situations.

Muscles can shorten and lengthen, so muscle actions leverage bones to cause them to move. Just the right amount of force and in the right directions contributes to skilled movement.

ATP:-

"What is ATP?" is an important question in sports training because all energy production is powered by this compound. The training programs you design for your athletes will target their ability to produce energy for power and/or endurance. ATP is often referred to as the energy currency of life. The body's cells use a special form of energy called adenosine triphosphate (ATP) to power almost all their activities, such as muscle contraction, protein construction, transportation of substrates, communication with other cells, activating heat control mechanisms, and dismantling damaged and unused structures.

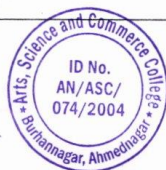
Every cell has a small store of highly charged ATP located in the cytoplasm. ATP is made up of adenosine and three inorganic phosphate (Pi) groups bonded together in sequence. Each of the phosphate bonds stores the energy the cell can use. The bond between the second and third phosphate groups contains the most accessible energy. Understanding the internal effects of exercise on athletes sets the stage for designing fitness training programs that prepare them for the physical demands of specific sports. Don't forget, though, that internal changes in athletes' bodies are one piece of the training puzzle.

It is important to know that in order to understand the effects of training, scientists must "zoom in" under lab conditions. Athletes and coaches must consider how well artificial conditions apply to training athletes in the real world. Be careful not to take theories (possible explanations) as the "gospel" when training athletes--always "zoom out" into the real world of competition. The best coaches read a variety of professional and scholarly resources in the field from publications such as the American Journal of Sports Medicine, the Journal of Strength and Conditioning Research, and the Journal of Sport Sciences. After reading the research, practitioners then consider how applications from each study fit with those from other sport sciences, and temper research findings with personal experience and good judgment.

Aerobic Training for Athletes

Aerobic training, also called cardio, improves an athlete's ability to use oxygen to sustain activity for periods of time. Examples of sports that demand long-term supplies of oxygen include marathon runners and distance swimmers. Success in many sports requires repeated burst of high intensity activity that draw

140



Vol. VI, Issue 9 (I) January, 2017

SPORTS AND SCIENCE

International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

on quick energy sources, but require increasing levels of aerobic fitness as the duration of the activity increases.

Anaerobic Training for Short, Intense Activity

Anaerobic training is repeatedly exercising to develop short-term high intensity performance. Anaerobic means "without oxygen". Activities such as jumping, sprinting, and weightlifting use this type of energy system. In contrast, sustained exercise performed at a lower intensity taps the aerobic system.

Anatomical Terms of Motion and Location

Anatomical terms of motion and location are the basis of describing human structure and function. When sport and strength coaches understand the framework of movement, they are equipped with better tools for training athletes. Selecting sport-specific skill and training drills require an analysis of movement. Distinguishing various ranges of motion allows coaches identify which exercises best match movement and strength demands of sports.

Sports Physiology Professional and Scholarly Resources

Professional organizations, such as the American College of Sports Medicine, make "position stands" or "consensus statements" that coaches and athletes can use as guidelines. In this way, facts are summarized and integrated into agreed upon training methods.



SPORTS AND SCIENCE

INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ECONOMICS, COMMERCE,
HUMANITIES, SOCIAL SCIENCES, ENGINEERING, TECHNOLOGY & MANAGEMENT

Organised By

Abhinav Shetkari Shikshan Mandal's

Abhinav College Of Arts, Commerce And Science, (Bsc-IT Bsc-CS, B.Lib, BMM & BAF)
Abhinav Education Campus, Goddeo, Bhayandhar East, Dist-Thane-401105.

In Association With

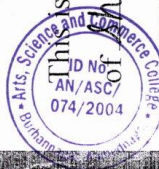
International Association of Academicians & Researchers (INAAR)



International Association
of Academicians And
Researchers

Certificate

This is to certify that Prof. Manisha Narayan Rode
Shri Baneshwar Arts, Commerce & Science College has participated and
presented a paper entitled Sports and Science



at International Conference On Contemporary Issues In Economics, Commerce, Humanities, Social
Sciences, Engineering, Technology & Management held on 28th January, 2017 at La-Shimmer Resort,
Bhayandhar, Mumbai.

Atch R. Mital

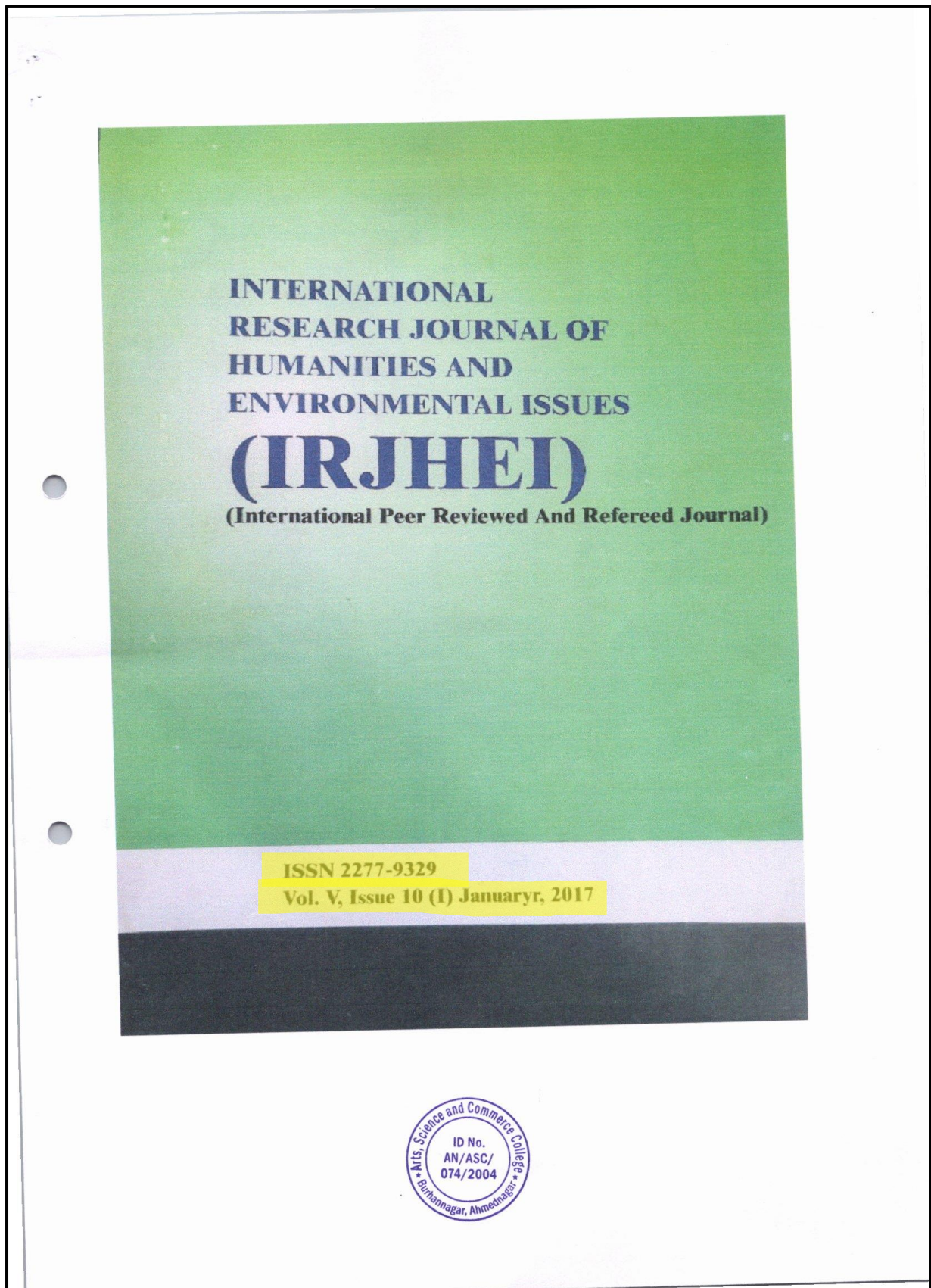
Manisha Rode

DATE: _____

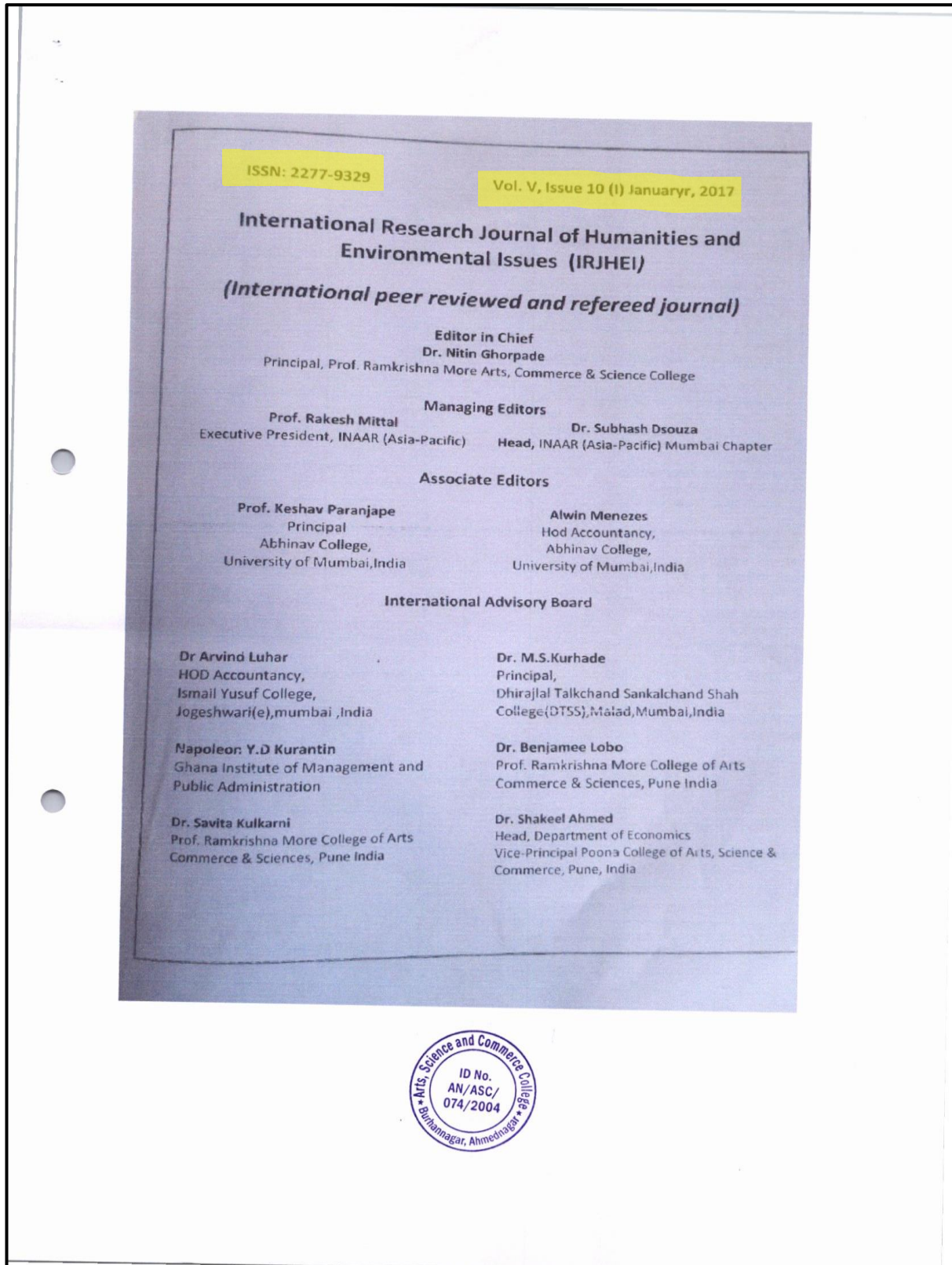
PLACE: _____

BY: _____

**COVER PAGE-VIOLATION OF WOMEN HUMAN RIGHTS IN
MAHARASHTRA**



COVER PAGE-VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA



INDEX-VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA

INDEX

SR. NO.	PAPER TITLE	PAGE NO.
1	"COURT VERDICT ON ENVIRONMENTAL ISSUES" Dr. Sarjay G. Maniar	1
2	CLIMATE CHANGE AND ITS IMPACT ON EARTH AND SOCIETY Syed Tanvir Badruddin	4
3	RURAL WOMEN EMPOWERMENT IN INDIA: A CRITICAL ANALYSIS Smt.Rabiabanu B. Nadaf , Jayaramaiah & M. M. Javali.	8
4	ROLE AND RELEVANCE OF HUMAN RIGHTS EDUCATION: AN OVERVIEW Dr. Umapati K.L. & Dr. Vijaykumar Betgar	12
5	GLOBAL WARMING TEACHING THE TOPIC OF GLOBAL WARMING AT COLLEGE LEVEL Miss Benazir H. Shaikh	16
6	ROLE OF FOREST RIGHTS ACT IN THE LIFE OF SCHEDULED TRIBES OF MAHARASHTRA: CASE STUDY OF GADCHIROLI DISTRICT Prof. Udhav Zarekar	20
7	CLIMATE CHANGE AND THEIR IMPACTS Lakshmi M Paloti	25
8	POVERTY:A CONTEMPORARY SOCIAL ISSUE IN INDIA Hiralal Kashirao Bhosale	28
9	SOME ASPECTS OF HEALTH SECTOR IN GUJARAT Dr. Vinod. N. Patel & Prof. M.P.Desai	33
10	ANALYSIS OF TRENDS IN POST MONSOON RAINFALL OF MAHARASHTRA Ms. Shruti P. Patil	37
11	CLIMATE CHANGE UNDERSTANDING THE SCIENCE OF CLIMATE CHANGE Bordikar Chetan P	42
12	CHALLENGES OF CHILD LABOUR IN INDIA Mr.Prashant R. Kamble	47
13	CONTEMPORARY ISSUES IN ENVIRONMENTAL LAW IN INDIA Dr. Avani Fatabhai Aal	51
14	VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA Dr. Jadhav Vijay Machindra	56
15	"ENVIRONMENTAL NOISE AND HEALTH - MAJOR CHALLENGE IN TODAY'S GLOBALIZED WORLD - A REVIEW STUDY" Dr. Rani Tyagi	59
16	GREEN COMPUTING Prof. Varsha Avinash Kale	63
17	"BIODIVERSITY STATUS OF MANGROVES OF DAHISAR MANGROVE PARK, DAHISAR (WEST) KHADI,MUMBAI, INDIA." Delphine Pereira & Sapna Sharma	67
18	A STUDY ON EMPLOYEE RETENTION AT AARTI DRUGS LTD, SARIGAM (GUJARAT) Pritam Raju Surati	72
19	DIGITALIZATION OF BUSINESS PROCESS: A FRAMEWORK SPLIT FOR CORPORATE SUSTAINABILITY Dr.K.Palani	76



VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA

International Research Journal of Humanities and Environmental Issues (IRJHEI)

ISSN: 2277-9329

VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA

Dr. Jadhav Vijay Machindra

Dept. Of Sociology
Shri Baneshwar Art's Com. & Sci. College,
Burhannagar, Ahmednagar.

Abstract :

Women faced with political, economics and educational problem, women face sever social, economic and political discrimination. Human rights are those minimum rights which are compulsory obtainable by every individual as he or she is member of human family. The constitution of india also guarenties the equality of rights of men and women how ever in the spher of womens human rights in india there exist a wide gulf between theory and practice. Indian society is male dominated society, where male are always assumed to supiorior to society. The constitution of india has granted equal rights to men and women. Acording to article 14 - 'The State shall not deny to any person equality befor law or the equal protection of laws within the teritory of india.' And Article 15 - States - 'State shall not descriminate agains any citizen on ground only of religion, race, cast, sex, place of birth or any of them. But today, its seems that there is wide gulf between theory and practice. ' The women in india have always been considered subordinate to men. Though the article contained in the constitution mandates equality and non - descrimination on the grounds of sex, women is always descrimnated and dishonored in indian society. Although various efforts have been taken to improve the status of women in india. The constitutional dream of gender equality is miles away from becoming a reality. Though Human Rights are the minimum rights which are compulsorily obtainable by every individual as he or she is a member of human society. But it has been found that each and every right of the women is been violated in one or another way. The crime against women in india are increasing at very fast pace. The National Crime Records Bureau (NCRB) had predicted that growth rate of crime against women would be higher than population growth by 2010 which was found to be true

WOMEN HUMAN RIGHTS :-

- * Right to Equality
- * Right to Education
- * Right to live with dignity
- * Right to liberty
- * Right to politics
- * Right to property
- Right to equal opportunity for employment
- * Right to free choice of profession
- * Right to livelihood
- * Right to work equitabale condition
- * Right to get equal wages for equal work
- * Right to protection from gender discrimination
- * Right to social protection from in eventuality of retirment, old age,sickness
- * Right to protection from in human treatment
- * Right to protection of helth
- * Right to privacy in terms of personal life,family,residence,correspondence etc.
- * Right to protection from Socity,satate,family system

VIOLATION OF WOMEN HUMAN RIGHTS

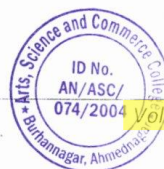
It has been repetadly said these days that women in india are enjoying the rights equal to men but in reality women in india have been the sufferers from past not only in earlier times but even now days also women have to face discrimination in justice and dishonour.

VIOLATION OF WOMEN HUMAN RIGHTS IN PAST

Eg(Devadasis,Jahuar,Purdah,Sati).

VIOLATION OF WOMEN HUMAN RIGHTS IN GENERAL

56



Vol. V, Issue 10 (I) January, 2017

Ir
V
I
e
d
V
E
n
S
V
T
h
V
In
p
ar
V
M
c
be
V
T
vi
re
th
vi
ar
N
pr
th
fo
an
be
lo
Ca
1.
fat
he
Jar
an
ho
Y s
Pu
2.
cas
Th
wo
tw
vis
ma
3.
roc
eu
eu

57

VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA

International Research Journal of Humanities and Environmental Issues (IRJHEI)

ISSN: 2277-9329

VIOLATION OF 'RIGHT TO EQUALITY' AND 'RIGHT TO PROTECTION' AGAINST GENDER DISCRIMINATION:

Discrimination against the girl child starts to the moment she enters into the mother womb. the child is exposed to gender differences since birth and in recent time even before birth in the form of sex determination test.

VIOLATION OF WOMEN HUMAN RIGHT TO EDUCATION

Education is considered as means of development of personality and awareness. education is one of the most important human rights but the position of women education in maharashtra is not at all satisfactory.

VIOLATION OF POLITICAL RIGHT

The political status of women in Maharashtra is very unsatisfactory, particularly their representation in higher political institutions.

VIOLATION OF RIGHT TO PROPERTY

In most of Indian families women do not own property in their own names and do not get share of parental property. Due to weak enforcement of laws protecting them, women continue to have little access to land and property.

VIOLATION OF RIGHT TO PROTECTION OF HEALTH

Malnutrition is the major cause of female infertility. The presence of excessive malnutrition among female children as compared to male children is basically due to differences in the intra family allocation of food between the male and female children.

VIOLATION OF WOMEN TRAFFICKING IN MAHARASHTRA

The trading in human beings and their exploitation in varied forms by traffickers is the most despicable violation of human rights. This global violation of human rights occurs within countries and across borders, regions and continents. Trafficking clearly violates the fundamental right to a life of dignity. It also violates the right to health and health care, liberty and security of person, and the right to freedom from torture, violence, cruelty or degrading treatment. The present paper is a case study of "Preventing Trafficking amongst Women through Community Participation", in four rural districts (Latur, Osmanabad, Beed and Nanded) of Marathwada region in Maharashtra. Since the present paper is about internal trafficking, it provides an analytical framework of various factors responsible for trafficking of women in Maharashtra on the basis of available literature. Trafficking is defined as a trade in something that should not be treated in for various social, economic or political reasons. Thus, we have terms like drug trafficking, arms trafficking and human trafficking. The concept of human trafficking refers to the criminal practice of exploiting human beings by treating them like commodities for the profit. Even after being trafficked, victims are subjected to long-term exploitation.

Case Study

1. Y, from Narsi village in Nanded, was forced into prostitution by her own father at the age of 12. Her father had earlier forced her mother to become a prostitute on national highway no. 9. Y was then told by her father that she would be married to a landlord. Instead she was sold to a brothel owner in Mumbai in January 2005. After around three months in a brothel, she was rescued on March 30, 2005 by the police and housed in a home set up by the Rescue Foundation, Mumbai. The staff of this organization traced Y's home. Based on the investigations of her home conditions by STCI's district coordinator, it was decided that Y should not be sent back there was a fear that she would be sold again. Y is now in a 'Home of Hope' in Pune, battling HIV/AIDS.

2. A, 25, is dark, short and robust from Osmanabad district of Marathwada region. Hailing from a scheduled caste community, she was the only educated member in the family. Both her parents were partially blind. They owned no land and were dependent on the meager income of their son, a school dropout who was working as a farm labourer. A was married in 1998 to a factory worker from Pune. She lived with him for two years. But when she bore no children, the usual story of harassment began. Her husband frequently visited brothels. One day he threw her out of the house saying that he was fed up with her looks. Later he married another woman without taking a divorce from A.

3. A returned home to her parent's village, but as a single woman, she found life difficult. She took a small room on rent and tried to get a job. She was unsuccessful. In October, 2005, before the Diwali festival, two eunuchs befriended A. The eunuchs are connected to a trafficking network, but A did not know this. The eunuchs asked her to feed them in return for some money. In need of money, she fed them regularly for

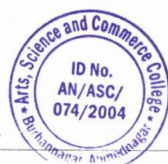
VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA

International Research Journal of Humanities and Environmental Issues (IRJHEI)

ISSN: 2277-9329

more than a week. The eunuchs started frequently visiting her house. She sensed that something was wrong. She locked herself and tried to hide herself from eunuchs. The eunuchs started making inquiries about her.

4. The young workers of KSS together with workers of another STCI partner, Parivartan, then mobilized youth groups and villagers of Andur village and forced the police to register a complaint and nab the eunuchs. The rescuers were threatened with dire consequences by criminals connected to the powerful woman, and A, though secure and safe in her village, is still searching for a way of establishing a firm foundation for her own life.

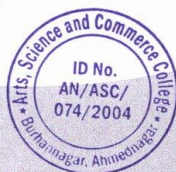


ROLE OF THE MAHARASHTRA STATE IN CULTURE



**INTERNATIONAL
JOURNAL OF
MULTI DISCIPLINARY
RESEARCH (IJMR)**

(International Peer Reviewed And Refereed Journal)



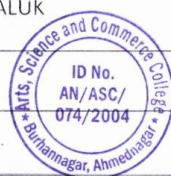
ISSN 2277-9302

Vol. VI, Issue 9 (II) January, 2017

ROLE OF THE MAHARASHTRA STATE IN CULTURE

INDEX

SR. NO.	PAPER TITLE	PAGE NO.
1	COMPARISON OF ATHLETES' PERSONALITY CHARACTERISTICS IN INDIVIDUAL AND TEAM SPORTS Kum. Paramma.B.Kuravatti & Dr.Rajkumar.P.Malipatil	1
2	CONFIDENCE IN VOLLEYBALL PLAYERS AND SPORTS Kum Rajeshwari G Konnur & Dr Sakpal Hoovanna	5
3	EFFECT OF AEROBICS EXERCISE ON TRAINING CESSATION IN PHYSIOLOGICAL PARAMETERS Kum.Tayamma Nagappa & Dr. K. P. Martin	8
4	THE SPORT SPECIFIC APPROACH TO STRENGTH TRAINING PROGRAMS Smt.Jyoti.A.Awati & Dr.Rajkumar.P.Malipatil	11
5	"THE MENTAL SKILLS OF SUCCESSFUL ATHLETES" Basanangouda Laxmeshwar & Sandesh R Hiremath	16
6	EFFECT OF SIX WEEKS TRAINING ON THE PHYSICAL FITNESS PERFORMANCE OF GIRLS (U-14 TO 16 YEARS) HOCKEY PLAYERS OF KARNATAKA Kum. Shobha.Wali & Dr.Rajkumar.P.Malipatil	21
7	BENEFITS OF PRANAYAMA Dr. Hanumanthayya pujari	24
8	A STUDY ON THE SELF-CONCEPT OF ADOLESCENTS Smt. Rangamma M & Prof. T.M.Geeta	30
9	A STUDY ON THE PROBLEMS FACED BY RESIDENTS IN IRON ORE MINING BELT OF GOA Ms. Sheetal D. Arondekar & Dr. I. Bhanu Murthy	34
10	INVENTION OF COINS DURING THE MOGHUL PERIOD- EXCAVATION AT YALLATTI VILLAGE Dr. Savitribai Olekar	39
11	GLOBAL ECOLOGICAL EFFECTS: A GEOGRAPHICAL PERSPECTIVE Dr.P.K.Malik	42
12	APPLICATION OF AQUATIC MACROPHYTE (E.CRASSPIES) FOR METAL REMOVAL FROM DISTILLERY EFFLUENT Dr. Poonam Bathla	48
13	A STUDY ON INDIVIDUAL PORTFOLIO MANAGEMENT Mangala Manaswini	54
14	ROLE OF THE MAHARASHTRA STATE IN CULTURE Dr. Jadhav Vijay Machindra	58
15	IMPACTS OF SOCIAL MEDIA IN ENHANCING PATIENTS LOYALTY FOR IMPROVING BUSINESS PROSPECTS OF MEDICAL TOURISM Prof. Rajendra Mishra & Dr. Shailesh Tripathi	61
16	SOCIAL SECURITY DESIGNED FOR UNORGANIZED LABOUR IN INDIA Sanjeevini S Melkeri	66
17	CONSEQUENCE OF MAKE IN INDIA IN CONTEXT OF VITAL ARTISTRY Dr. Dalbir Singh Kaushik	71
18	ENVIRONMENTAL DEGRADATION & HEALTH HAZARDS: ISSUES AND CHALLENGES Dr.Phool Kumar Malik	75
19	RELATIONSHIP OF HEALTH RELATED FITNESS TO ACADEMIC ACHIEVEMENT OF HIGH SCHOOL GIRLS OF SULTA TALUK Dr. C.Venkatesh	80



ROLE OF THE MAHARASHTRA STATE IN CULTURE

International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

ROLE OF THE MAHARASHTRA STATE IN CULTURE

Dr. Jadhav Vijay Machindra

Shri Baneshwar Art's Com. & Sci. College,
Burhannagar, Ahmednagar.

Introduction :-

As Maharashtra is a vast state, the people of this colourful state wears different types of costumes, take different cuisines, has different forms of dances and music according to the physical features of their locality. Generally, men wear dhoti and pheta in olden days, while women wear choli and saree. But with the change of time, young Maharashtrians too are fast attracting to the latest fashions imported from the western countries. The mouth watering Konkani and Varadi cuisines would kill any visitor's appetite. Although, Maharashtrian cuisines are a bit strong in pepper and spice, but it is the speciality of the dishes of this state that world knows about. And everybody knows about the unbeatable taste of the Mumbai chaats. The dance forms like Povada, Lavani and Koli with mesmerizing music and rhythmic movements entertain the Maharashtrians. Dhangri Gaja, Dindi, Kala and Tamasha are the folk dances that attach to the heart of the people of this state.

People and Lifestyle of Maharashtra

Marathi reigns supreme as the language of the people of Maharashtra. Although every religion has a fair share in the population of Maharashtra, the Hindus have a clear majority. The traditional clothing involves the Pheta, Kurta and Dhoti for the men while the women don the unique Marathi Saree and Choli.

There is also a huge sense of diversity in the state. It would be unfair to use one term for the entire state. With a gamut of dances, Foods, Dresses etc, the people of Maharashtra are popular for their rich culture. The cuisine is also varied, the Varadi and Konkani varieties are set to sweep people off the floor. Apart from the strong spices used in the dishes, the state of Maharashtra is also famous for its delicious street food. The chaat of the state capital is particularly famous. The dance forms in the state too are also diverse.

Maharashtra is the third largest state of India. It is known as the land of saints, educationists and revolutionists, notable among them being Mahadev Govind Ranade, Swatantraveer Savarkar, Savitribai Phule, Bal Gangadhar Tilak and many others. It has long history of Marathi saints of Varkari religious movement which includes saints like Dnyaneshwar, Namdev, Chokhamela, Eknath, and Tukaram which forms the one of base of culture of Maharashtra or Marathi culture. Maharashtra is also known for its purgami culture which translates as reformist or forward culture which was started by earlier saints and led by Mahatma Phule, Shahu Maharaj, Dr. B. R. Ambedkar in modern times. Maharashtra has huge influence all over the world of 17th century King Shivaji of Maratha Empire and his concept of Hindavi Swarajya which translates self-rule of people. The state of Maharashtra spans multiple cultures which includes cultures related to Hindus, Muslims, Buddhists, Sikhs, Christians etc. Lord Ganesha and Lord Vitthal are the traditional deities worshipped by Hindus of Maharashtra.

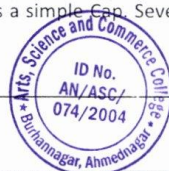
Maharashtra is divided into various regions; Marathwada, Vidarbha, Khandesh, Konkani, etc. and each region has its own cultural identity in the form of different dialects of Marathi language, folk songs, food, ethnicity.

Costumes of Maharashtra

As Maharashtra is a vast state, the people of this colourful state wears different types of costumes, take different cuisines, has different forms of dances and music according to the physical features of their locality. Generally, men wear dhoti and pheta in olden days, while women wear choli and saree.

The vastness of the state naturally adds the required spice of variety to its culture. The people of Maharashtra have a distinct style of costume that varies from one region to another in the state. Having said that, their basic attire is usually similar. In the golden era, the men wore a dhoti and a simple pheta, whereas the women wore the traditional Marathi saree with a choli. The traditional dress for men in Maharashtra involves the basic dhoti and a shirt which they called the pheta. The traditional attire is incomplete without their usual headgear which is a simple cap. Several people also use to tie a pagdi or a turban which is soon fading away from the scene.

58



Vol. VI, Issue 9 (II) January, 2017

ROLE OF THE MAHARASHTRA STATE IN CULTURE

International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

For women, the traditional dress involves a saree. They tie the saree around their lower part. The sarees usually have varied lengths and are accompanied by the choli for the torso. The Choli is meant to cover half the torso and have cropped sleeves

Cuisines in Maharashtra

Maharashtrians consider anna, or food equals to Brahma, the creator of the universe. Maharashtrians believe in offering their food first to the God as a thanksgiving. Especially on festive occasions, specific mithais (sweets) are offered such as ukadiche modak (Ganesh Chaturthi) and satyanarayan puja sheera. The culture of Maharashtra equates Brahma, the Universe's creator to food, as a result of which Maharashtra has a culture of offering food first to god. On the occasions of festivals and fairs, Special sweets are offered to gods.

There are basically two different branches of Marathi cuisine - Varadi and Konkani. Maharashtra coastal areas are bordered by the Arabian Sea. This coastal front is known as the Konkani and has a unique cuisine which is a blend of Gaud, Malvani, Saraswat, Goan and Brahmin cuisines. The Non Coastal part of Maharashtra which is often termed as the Vidharba is the home to the Varadi cuisine.

In the traditional cuisine of Maharashtra, vegetables are blessed with a sedate and aromatic delight while the fishes and meats come steamy hot and spice. The Konkani cuisine relies heavily on the use of coconut and spices. Maharashtrian (or Marathi) cuisine encompasses the cooking styles, traditions and recipes associated with the cuisine of the Marathi people from the state of Maharashtra in India. It has distinctive attributes of its own, but also shares much with the wider Indian cuisine. Maharashtrian cuisine covers a range from having mild to very spicy dishes. Wheat, rice, jowar, bajri, vegetables, lentils and fruit form staples of the Maharashtrian diet. Peanuts and cashews are often served with vegetables. Traditionally, Maharashtrians have considered their food to be more austere than that of other regions in India. Meat has traditionally been used quite sparsely or only by the well off until recently because of economic conditions and culture. The urban population of Maharashtra in metropolitan cities such as Mumbai, Pune and others have been open to influence of recipes from other parts of India and abroad. For example, the Udupi dishes idli and dosa as well as Chinese and Western dishes are quite popular in home cooking and in restaurants.

Dances of Maharashtra

Gifted with its rich culture and traditions, Maharashtra has different types of dance forms. Povada is the dance form that showcases the lifetime achievements of the Maratha ruler Shivaji Maharaj.

The diversity and the richness of the Maharashtrian culture drips down to its traditional dance forms too. One very interesting dance form in the state is the Povada. Basically based around the life of Shivaji Rao, this dance form is mesmerizing to see.

Dhangari Gaja

The Marathi dance form referred to as Dhangari Gaja is famous and is performed by the shepherds or the Dhangars belonging to Sholapur district. The Dhangars win their bread by rearing goats and sheep. Their poetry is basically influenced by the trees in the surroundings. This type of poetry is known as 'Ovi' which is formed of couplets. These poems also exhibit tales of the birth of God 'Biruba' in a comprehensive and simple way. Dhangari Gaja is a dance form conducted for pleasing the God of Dhanjars and to gain His blessings in return. The traditional dresses of Maharashtra worn by Dhangar dancers are Dhoti, Pheta, Angarakha and bright-colored handkerchiefs. The dancers' group surrounds the drum players while moving at the rhythm.

Povadas

Povadas are ballads of Maharashtra which describe events of the life of great Marathi leader, Shri Chatrapati Shivaji Maharaj. He had a highly respected place in the hearts of people and is still alive in their thoughts. With the help of these ballads, Shivaji, a great hero of his time, is remembered.

Koli

Koli has been one of the most prominent dances of Maharashtra which got its name from the fisher folk of the state - Kolis. The fishermen are popular because of their unique identity as well as lively dances. Their dances have elements of their occupation, fishing. The Koli dance is conducted by both women and men but, divided in groups of two. The fishermen portray the boat and water movements in the Koli dance.

ROLE OF THE MAHARASHTRA STATE IN CULTURE

International Journal of Multidisciplinary Research (IJMR)

ISSN: 2277-9302

Int

Tamasha

Tamasha is regarded as one of the most significant types of traditional folk dance of the state of Maharashtra. The word 'Tamasha' is Persian meaning entertainment or fun. This dance is a mix of various influences. Few scholars have a belief that this theater form got inspired by 2 types of Sanskrit drama - the 'Bhana' and 'Prahana'. It got developed in the 16th century. The romantic songs ('Lavanis') are the lifelines of Tamasha and are popularly known. The Instruments being used are Dholki drum, Manjeera cymbals, Tuntuni, Daf, kade, Halgi along with Lejim, an instrument having a jangling sound, the ghungroos, and Harmonium. Tamasha is related to the 2 major communities of Maharashtra state, called as Mahar and Kolhati. Folk dances usually develop from the areas found in rural regions. In the Maharashtra state, folk dances are conducted during the festive occasions exhibiting the rich culture celebrated with enthusiasm.

Pr
Th

Dindi

Dindi is a folk dance belonging to Maharashtra and is seen to be performed on Ekadashi day falling in the month of Kartik. The religious dance devoted to Gods exhibits the playful behavior of Lord Krishna. Dindi is actually a small drum similar to 'Tamate'. The dancers move to the rhythm having musicians in the surrounding with the required musical background.

Ab
Ris
bu
en,
ad
soc
in
tov
res
he.

Kala

Kala is yet another form of folk dance describing the playful behavior of Lord Krishna. This form of dance describes a pot as a symbol of fertility. The major attraction of the dance is beat along with its rhythm. Other than this, Lavani and Koli dances are also particularly famous for their rhythm and grammar. Dindi, Dhangri Gaja, Tamasha and Kala are all part of its folk dance repertoire.

Ke
In
Sc
ar
fr
of
M
tc
m
Pri

Music of Maharashtra

Every festive occasion is accompanied by song, music and dance in Maharashtra. Talking about the music of Maharashtra won't complete without the mention of Natya Sangeet, numerous folk songs and its great saint poets. Maharashtra is famous for taking its festivals seriously. All of them are filled with colors, Dances and songs. The music in the state of Maharashtra revolves around the Natya Sangeet, abundant folk songs and the saints with their poetry.

The music of Bollywood is also deeply rooted in Maharashtra.

Festivals in Maharashtra

Due to the presence of every religion, all the festivals are observed in Maharashtra. The Ganesh Chaturthi takes festivities to another level and is famed across the country for the same. Diwali, like in the rest of the nation, is celebrated with much fervor and joy in Maharashtra too. All the other major festivals of the Hindus are duly observed. The Muslims in the state celebrate their Eids and Muharram with as much fervor joy and passion.

As Maharashtra is a big state, it is home to many religions. The state also nurtures different traditions with diverse communities. Maharashtrais are fun loving people, so that might be another reason why the state has lots of different festivals. Apart from the main festivals of Eid, Holi, Deewali and other festivals, which are celebrated, all over India, there are other festivals, which are celebrated locally and regionally in Maharashtra. Songs, dance and mouth watering cuisines accompany almost every festivals. Ganesh Chaturthi is the most important festival in Maharashtra. It is celebrated for ten days with huge fun fare. Banganga Festival, Kalidas Festival, Ellora Festival and Elephanta Festival are the festivals organized by the Maharashtra Tourism Development Corporation. Classical music and dance are the main attractions of these festivals. Kojagiri Poornima or Ashwin Poornima, Ganga Dashahara, Banganga Festival, Nag Panchami, Wat Pournima, Shivaji Maharaj Jayanti and Palkhi Festival are some of the important festivals of Maharashtra.

Lit
Ka
the
cre
al.
col
me
shi
sor
Ob
1.
2.
pre
res
3.
im



GREEN COMPUTING

ISSN: 2277-9329

Vol. V, Issue 10 (I) January, 2017

International Research Journal of Humanities and Environmental Issues (IRJHEI)

(International peer reviewed and refereed journal)

Editor in Chief

Dr. Nitin Ghorpade

Principal, Prof. Ramkrishna More Arts, Commerce & Science College

Managing Editors

Prof. Rakesh Mittal

Executive President, INAAR (Asia-Pacific)

Dr. Subhash Dsouza

Head, INAAR (Asia-Pacific) Mumbai Chapter

Associate Editors

Prof. Keshav Paranjape

Principal
Abhinav College,
University of Mumbai, India

Alwin Menezes

Hod Accountancy,
Abhinav College,
University of Mumbai, India

International Advisory Board

Dr Arvind Luhar

HOD Accountancy,
Ismail Yusuf College,
Jogeshwari(e), Mumbai, India

Dr. M.S.Kurhade

Principal,
Dhirajlal Talkchand Sankalchand Shah
College(DTSS), Malad, Mumbai, India

Napoleon Y.D Kurantin

Ghana Institute of Management and
Public Administration

Dr. Benjamee Lobo

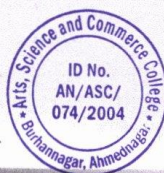
Prof. Ramkrishna More College of Arts
Commerce & Sciences, Pune India

Dr. Savita Kulkarni

Prof. Ramkrishna More College of Arts
Commerce & Sciences, Pune India

Dr. Shakeel Ahmed

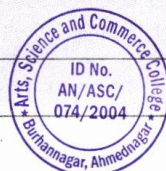
Head, Department of Economics
Vice-Principal Poona College of Arts, Science &
Commerce, Pune, India



GREEN COMPUTING

INDEX

SR. NO.	PAPER TITLE	PAGE NO.
1	"COURT VERDICT ON ENVIRONMENTAL ISSUES" Dr. Sanjay G. Maniar	1
2	CLIMATE CHANGE AND ITS IMPACT ON EARTH AND SOCIETY Syed Tanvir Badruddin	4
3	RURAL WOMEN EMPOWERMENT IN INDIA: A CRITICAL ANALYSIS Smt.Rabiabanu B. Nadaf , Jayaramaiah & M. M. Javali.	8
4	ROLE AND RELEVANCE OF HUMAN RIGHTS EDUCATION: AN OVERVIEW Dr. Umapati K.L. & Dr. Vijaykumar Betgar	12
5	GLOBAL WARMING TEACHING THE TOPIC OF GLOBAL WARMING AT COLLEGE LEVEL Miss Benazir H. Shaikh	16
6	ROLE OF FOREST RIGHTS ACT IN THE LIFE OF SCHEDULED TRIBES OF MAHARASHTRA: CASE STUDY OF GADCHIROLI DISTRICT Prof. Udhav Zarekar	20
7	CLIMATE CHANGE AND THEIR IMPACTS Lakshmi M Paloti	25
8	POVERTY:A CONTEMPORARY SOCIAL ISSUE IN INDIA Hiralal Kashirao Bhosale	28
9	SOME ASPECTS OF HEALTH SECTOR IN GUJARAT Dr. Vinod. N. Patel & Prof. M.P.Desai	33
10	ANALYSIS OF TRENDS IN POST MONSOON RAINFALL OF MAHARASHTRA Ms. Shruti P. Patil	37
11	CLIMATE CHANGE UNDERSTANDING THE SCIENCE OF CLIMATE CHANGE Bordikar Chetan P	42
12	CHALLENGES OF CHILD LABOUR IN INDIA Mr.Prashant R. Kambie	47
13	CONTEMPORARY ISSUES IN ENVIRONMENTAL LAW IN INDIA Dr. Avani Fatabhai Aal	51
14	VIOLATION OF WOMEN HUMAN RIGHTS IN MAHARASHTRA Dr. Jadhav Vijay Machindra	56
15	"ENVIRONMENTAL NOISE AND HEALTH - MAJOR CHALLENGE IN TODAY'S GLOBALIZED WORLD - A REVIEW STUDY" Dr. Rani Tyagi	59
16	GREEN COMPUTING Prof. Varsha Avinash Kale	63
17	"BIODIVERSITY STATUS OF MANGROVES OF DAHISAR MANGROVE PARK, DAHISAR (WEST) KHADI,MUMBAI, INDIA." Delphine Pereira & Sapna Sharma	67
18	A STUDY ON EMPLOYEE RETENTION AT AARTI DRUGS LTD, SARIGAM (GUJARAT) Pritam Raju Surati	72
19	DIGITALIZATION OF BUSINESS PROCESS: A PARADIGM SHIFT FOR CORPORATE SUSTAINABILITY Dr.K.Palani	76



GREEN COMPUTING

International Research Journal of Humanities and Environmental Issues (IRJHEI)

ISSN: 2277-9329

GREEN COMPUTING

Prof. Varsha Avinash Kale

Dept. Of Computer Science
Shri Baneshwar Art's, Commerce & Science
College, Burhannagar, Ahmednagar

Introduction:-

In day today life we used E_Products for our daily work. We all are become adict about E_products .It gives us adverse effects than benefits such as Global warming which has been the major disease since it came into light, poses threats for the future. We are in an era where needs and demands are growing by second of the clock.

Tons of Electronic Waste:

Majorly pronounced E-Waste, this is a major threat that has an impact on our environment since the machinery came in. Tons and millions of dump get collected daily around the globe in junkyards. Also, it produces some unbearable toxics that can lead to various unknown deadly diseases. In order to recycle e-waste, we should shift towards Green technology and make use of environment-friendly products.

Limited Resources:

There might be a headline in the future that says "NO MORE RESOURCES TO PRODUCE ELECTRONICS GOODS" until manufacturers around the globe start taking this issue seriously. Resources are limited and should be utilized efficiently in order to save environment. Green ideas that lead to minimize the usage of these scare resources should be used as much as possible. Cloud technology is one great example of that.

Energy Cost:

The thing that runs most of these technological processes all around the globe doesn't come at an easy cost. Producing electrical energy these days is getting costlier and limited. The usage and demand for energy consumption has led to crisis situation in many countries. The problem can only be solved by moving to other clean and green options. Solar energy, bio gas and wind energy are great motivators towards that. So "Green Computing" was probably coined shortly after the 'Energy Star' program began way back in 1992. One of the first results of green computing was the "Sleep mode" function of computer monitors. As the concept developed, green computing began to encompass thin client solutions, energy cost, accounting, virtualization practices, e-Waste, etc. Green computing seeks to minimize negative environmental impacts through the responsible use of electronics, through the creation of energy-efficient designs (such as with CPUs), through the implementation of recycling programs that can repurpose existing computers, and through the designing of manufacturing processes that minimize waste.

Core objectives of Green Computing Strategies:

- Minimizing energy consumption
- Purchasing green energy
- Reducing the paper and other consumables used
- Minimizing equipment disposal requirements
- Reducing travel requirements for employees/customers

Overview of Green Computing:

"Greening" your computing equipment is a low-risk way for your business to not only help the environment but also reduce costs. It's also one of the largest growing trends in business today. "Making a proper decision to go green in the workplace such as offices, not only improves the net profit of your business, but also reduces your carbon footprint. Reducing energy usage, which also reduces carbon dioxide emissions and your energy bill, is the most effective thing you can do.

Needs of green computing:-

Climate Change :

First and foremost, conclusive research shows that CO2 and other emissions are causing global climate and environmental damage.

Preserving the planet is a valid goal because it aims to preserve life. Planets like ours, that supports life, are very rare. None of the planets in our solar system, or in other star systems have m-class planets as we know them.

63



Vol. V, Issue 10 (I) January, 2017

GREEN COMPUTING

International Research Journal of Humanities and Environmental Issues (IRJHEI)

ISSN: 2277-9529

Savings :

Green computing can lead to serious cost savings overtime. Reductions in energy costs from servers, cooling, and lighting are generating serious savings for many corporations.

Reliability of Power :

As energy demands in the world go up, energy supply is declining or flat. Energy efficient systems help ensure healthy power systems. Also, more companies are generating more of their own electricity, which further motivates them to keep power consumption low.

Computing :

Computing Power Consumption has Reached a Critical Point: Data centers have run out of usable power and cooling due to high densities.

Approaches to Green Computing:

Virtualization :

Computer virtualization is the process of running two or more logical computer systems on one set of physical hardware.

Power Management :

ACPI allows an operating system to directly control the power saving aspects of its underlying hardware.

Power management for computer systems are desired for many reasons, particularly:

- Prolong battery life for portable and embedded systems.
- Reduce cooling requirements.
- Reduce noise.
- Reduce operating costs for energy and cooling

Power Supply :

Climate savers computing initiative promotes energy saving and reduction of greenhouse gas emissions by encouraging development and use of more efficient power supplies.

Storage :

There are three routes available, all of which vary in cost, performance, and capacity. Example, Desktop hard drive, Laptop hard drive, Solid state drive. Desktop Hard Drive Laptop Hard Drive Solid State Drive

Video Card :

A fast GPU may be the largest power consumer in a computer.

Energy efficient display option include :

- No video card – use a shared terminal, shared thin client, or desktop sharing software if display required.
- Use motherboard video output – typically low 3D performance and low power.
- Reuse an older video card that uses little power, many do not require heatsinks or fans.
- Select a GPU based on average wattage or performance per watt.

Displays :

LCD monitors typically use a cold-cathode fluorescent bulb to provide light for the display. Some newer displays use an array of light emitting diodes (LEDs) in place of the fluorescent bulb, which reduces the amount of electricity used by the display. LCD monitors uses three times less when active, and ten times less energy when in sleep mode. CRT Display LCD Display LED Display

Materials Recycling :

Parts from outdated systems may be salvaged and recycled through certain retail outlets and municipal or private recycling.

Telecommuting :

Telecommuting technologies implemented in green computing initiatives have advantages like increased worker satisfaction, reduction of greenhouse gas emissions related to travel and increased profit margins.

- The goal of green computing reduce the use of hazardous materials, maximize energy efficiency during the product's lifetime, and promote the recyclability or biodegradability of defunct products and factory waste.
- Research continues into key areas such as making the use of computers as energy-efficient as possible, and designing algorithms and systems for efficiency-related computer technologies.

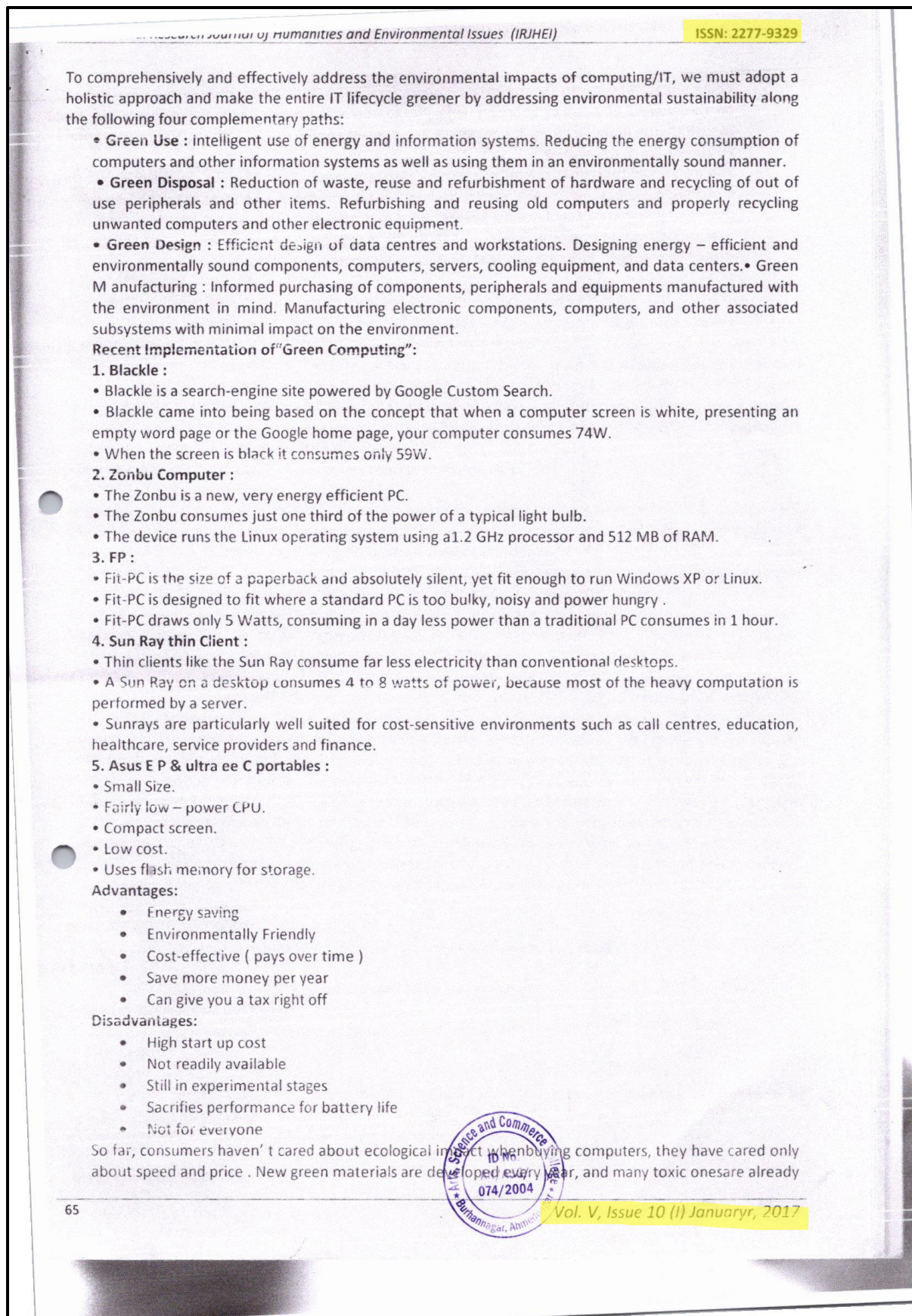
Pathways to Green Computing:

64

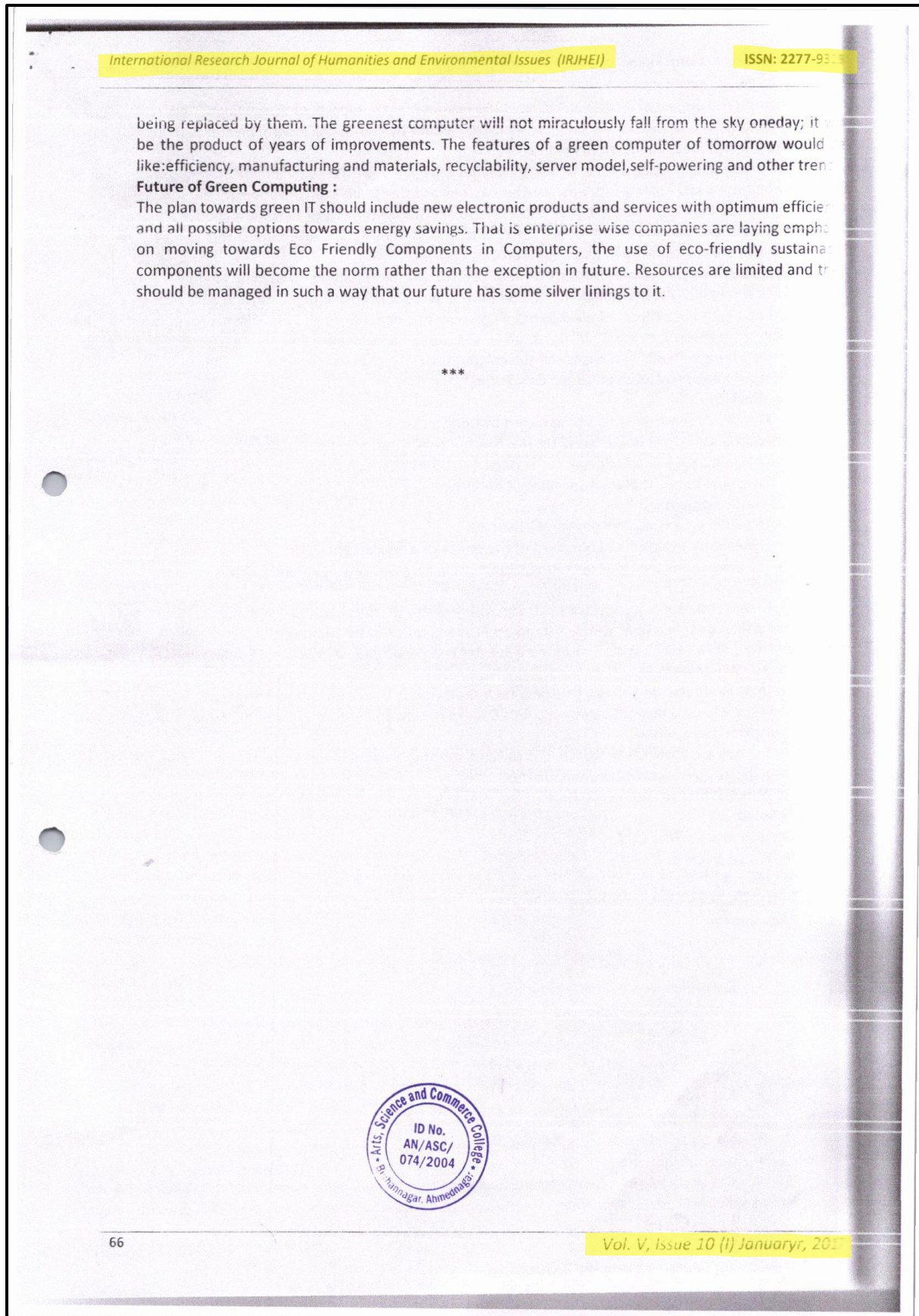


Vol. V, Issue 10 (I) January, 2017

GREEN COMPUTING



GREEN COMPUTING



SOIL ALGAE OF SUGARCANE FIELD IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

FLORA AND FAUNA

ZVI / VOL. 23 No. 2 (2)

ISSN 0971-6920

SOIL ALGAE OF SUGARCANE FIELD IN AHMEDNAGAR DISTRICT OF MAHARASHTRA.

SWATI G. WAGH* AND MILIND J. JADHAV

Department of Botany,
Shri. Baneshwar Arts, Commerce and Science College,
BURHANAGAR, Dist. Ahmednagar
Department of Botany,
Sir Sayyad College, Roshan Gate area,
AURANGABAD
*Email: swati.wagh375@gmail.com

ABSTRACT

Present research work deals with the detailed and scientific study of diversity of soil algae of Sugarcane (*Saccharum officinarum* L.) field. Collected and cultured algal samples were observed thoroughly under research microscope and identified with the help of standard literature on algae. A total of 33 species under 19 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded. Cyanophyceae algae were found dominant followed by Bacillariophyceae and Chlorophyceae. Algal forms *Gloeocystis*, *Chlorococcum*, *Chlorella*, *Gomphonema*, *Nitzschia*, *Aphanothece*, *Spirulina*, *Oscillatoria*, *Phormidium*, *Lyngbya*, *Microcoleus*, *Nostoc* and *Plectonema* were found abundant. Physicochemical analysis of sugarcane field soil was carried out by selecting certain physicochemical parameters such as pH, electrical conductivity, organic carbon, available nitrogen and available phosphorus and available potassium to understand fertility status of soil. Sugarcane field soil supports growth and development of alae. Algal flora of sugarcane field is rich and it is found in diverse form.

Figure: 01

References: 13

Tables: 02

KEY WORDS: Physicochemical analysis, Soil algae, Sugarcane field.

Introduction

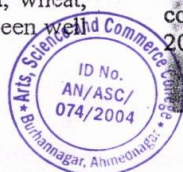
Algae constitute an important group of soil microflora. They play a very important role in fertility of soil. It makes the composition of the soil ideal for better crop production, thus plays an important role in economy of soil. It is heterogeneous assemblage of autotrophs. A soil alga generally occurs on or in soil and grows in abundance and found in diverse form.

A Cyanophycean alga fixes atmospheric nitrogen and enhances fertility of soil. The ecological value of soil algae is very important as they contribute to soil formation, protect soil from wind erosion and also act as an absorptive organ for water. Almost soil algae helps in retention of soil moisture and provides germination ground for seeds of flowering plants. Soil algae have attracted the attention of phycologist since past few decades^{2,4,5,8,10,11}. Soil algal diversity studies of paddy, banana, wheat, sugarcane and brinjal fields have been documented^{1,3,6,7,9,10,12,13}.

Sugarcane (*Saccharum officinarum* L.) is widely growth crop in India. It provides employment to over a million people directly and indirectly besides contributing significantly to the national exchequer. Sugarcane growing countries of the world lay between the latitude 36.7° north and 31.0° south of the equator extending from tropical to sub tropical zones. Sugarcane (*Saccharum officinarum* L.) is one of the main cash crops of India. Extensive review of literature reveals that very rare attention has been paid towards algal flora of sugarcane field therefore to fulfill these lacunas it has been decided to work on algal diversity of sugarcane field soil.

Materials and Methods

A sugarcane field which is located in Ahmednagar district area has been selected to study algal flora. Algal samples from moist surface of sugarcane field were collected at regular interval from October 2015 to September 2016. Algal sample and



SOIL ALGAE OF SUGARCANE FIELD IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

collected in sterilized collection bottles. Collected algal samples were brought to the laboratory for direct observation and identification with help of standard literature of algae.

The sun dried soil samples collected from same sugarcane field were examined for their algal components by petriplate culture method. 1g of pulverized soil poured and spread uniformly into the petriplates containing agarized Bold's basal medium (Bold 1942). Liquid nutrient medium was poured into the plates at the time of keeping those for incubation and frequently supplemented with the same. The petriplates were incubated under tubelights having 1000 to 1500 lux capacity in the algal culture chamber. Petriplates were checked for the growth of algal colonies. After sufficient growth, algal colonies were picked up for identification.

Algal samples were observed under research microscope and identified with the help of standard literature on algae. In order to know the fertility status of selected sugarcane field, analysis of soil was performed for certain selected physicochemical parameters such as pH, electrical conductivity, organic carbon, available nitrogen, available phosphorus and available potassium.

Results and Discussion

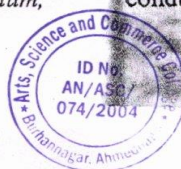
A total of 33 species under 19 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded from collected as well as cultured algal samples of Sugarcane field of Ahmednagar district area. Of these 7 species under 6 genera belonged to Chlorophyceae, 5 species under 4 genera belonged to Bacillariophyceae and 21 species under 9 genera belonged to Cyanophyceae (Table-1). Cyanophycean algae were found dominant. Early workers^{1,3,7,10} observed dominance of Cyanophycean algae from wheat field. During present investigation *Aphanothece*, *Oscillatoria*, *Phormidium*,

Lyngbya, *Microcoleus*, *Nostoc* and *Plectonema* were dominant. Similar kind of observations were made by others^{11,13}.

During present study Chlorophycean algae *Gloeocystis*, *Chlorococcum*, *Cosmarium*, *Spirogyra* and *Chlorella* was found abundant. Prasad (2005) also reported abundance of *Chlorococcum* and *Chlorella* from wheat field of Nepal. *Chlorella Vulgaris*, *Chlorococcum humicola* and *Stichococcus subtilis* are important constituent of soil algal flora of various parts of world.

Among Bacillariophyceae *Nitzschia* were found dominant. A workers^{1,11,12} recorded dominance of *Navicula* and *Nitzschia* in wheat field. Unicellular, colonial and filamentous algal forms were recorded during present research work. Filamentous algal forms were found in maximum number. Classwise percentage contribution study of algal flora of Sugarcane field reveals that, highest contribution was of Cyanophyceae (64.00%) followed by Chlorophyceae (21.00%) and Bacillariophyceae (15.00%) (Fig.1) Overall algal taxa which were found common in Sugarcane field during present research work were *Gloeocystis gigas*, *Gloeocystis major*, *Chlorococcum humicola*, *Chlorella vulgaris*, *Cosmarium subtumidum*, *Nitzschia obtusa*, *Nitzschia palea*, *Surirella ovata*, *Aphanothece nidulans*, *Spirulina major*, *Oscillatoria acuta*, *Oscillatoria Obscura*, *Oscillatoria Subbrevis*, *Oscillatoria acuminata*, *Oscillatoria animalis*, *Oscillatoria princeps*, *Phormidium*, *Phormidium bohneri*, *Phormidium corium*, *Phormidium jenkelianum*, *Phormidium molle*, *Lyngbya hieronymusii*, *Microcoleus acutissimis*, *Microcoleus subtorulosus*, and *Plectonema gracillimum*.

Analysis of Physicochemical parameters of soil revealed fertility status of soil. The overall fertility status of selected Sugarcane field soil was moderate alkaline (pH 7.98), moderate electrical conductivity (0.16 M mhos/cm), high



SOIL ALGAE OF SUGARCANE FIELD IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

ISSN 0-71-6930

organic carbon content (1.51%), and low available nitrogen (125.00 kg/hectare), high available phosphorous (57.66% kg/hectare) and low available potassium (47.04kg/hectare). Moderate alkaline soil favours growth of algae. Moderate electrical conductivity supports growth of algae. Soil rich in organic carbon and available phosphorous in algal flora. In Sugarcane field available Nitrogen was low and available potassium is low.

Conclusion

A total of 33 species under 19 genera of algae were recorded from soil of Sugarcane field. Cyanophyceae algae were found dominant than Bacillariophyceae

and Chlorophyceae. Unicellular, Colonial and filamentous algae were recorded. Filamentous algal forms were found abundant. Algal flora of Sugarcane field was rich and it was found in diverse form. Soil is moderate alkali with normal electrical conductivity. Organic carbon was high. Nitrogen was low whereas phosphorous is high and potassium was low. Moderate alkaline soil harbours growth of Cyanophyceae algae. Present research work will enrich the knowledge of soil algae of Ahmednagar district of Maharashtra.

TABLE-1: Diversity of soil algae from Sugarcane field.

Chlorophyceae		
<i>Gloeocystis gigas</i>	<i>Gloeocystis major</i>	<i>Chlorococcum humicola</i>
<i>Chlorella vulgaris</i>	<i>Cosmarium subtumidum</i>	<i>Spirogyra</i>
Bacillariophyceae		
<i>Pinnularia sp.</i>	<i>Gomphonema spp</i>	<i>Nitzschia obtusa</i>
<i>Nitzschia palea</i>	<i>Surirella ovata</i>	
Cyanophyceae		
<i>Gloeotheca palea</i>	<i>Aphanothece nidulans</i>	<i>Spirulina major</i>
<i>Oscillatoria acuta</i>	<i>Oscillatoria acuminata</i>	<i>Oscillatoria animalis</i>
<i>Oscillatoria obscura</i>	<i>Oscillatoria princeps</i>	<i>Oscillatoria quadripunctulata</i>
<i>Phormidium corium</i>	<i>Phormidium jenkelianum</i>	<i>Phormidium molle</i>
<i>Phormidium usterii</i>	<i>Lyngbya hieronymusii</i>	<i>Lyngbya martensina</i>
<i>Microcoleus acutissimus</i>	<i>Microcoleus lacustris</i>	<i>Microcoleus subtorulosus</i>
<i>Nostoc linckia</i>	<i>Plectonema gracillimum</i>	<i>Plectonema nostocorum</i>

TABLE- 2: Physicochemical analysis of Sugarcane field soil.

Sr. No.	Parameters	Observation	Fertility Status
1	Ph	7.98	Moderate alkali
2	Electrical Conductivity (Mili mohs / Centimeter)	0.16	Moderate
3	Organic Carbon (%)	1.51	High
4	Available Nitrogen (Kg / hectare)	125.00	Low
5	Available Phosphorous (Kg / hectare)	57.66	High
6	Available Potassium (Kg / hectare)	47.04	Low



SOIL ALGAE OF SUGARCANE FIELD IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

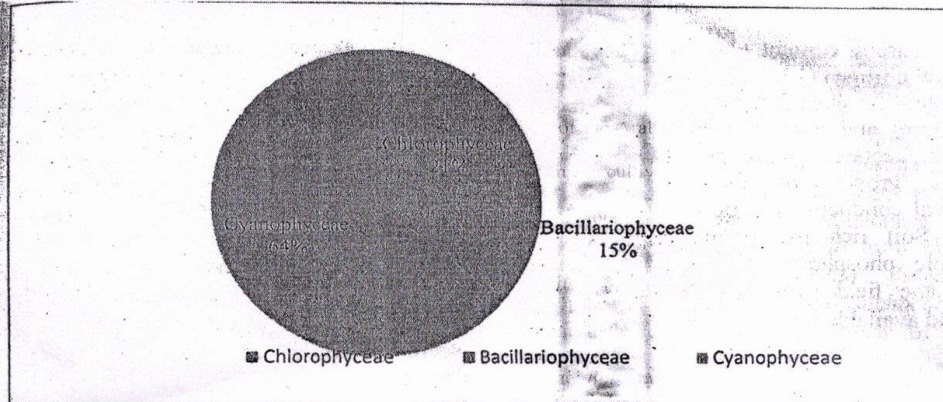


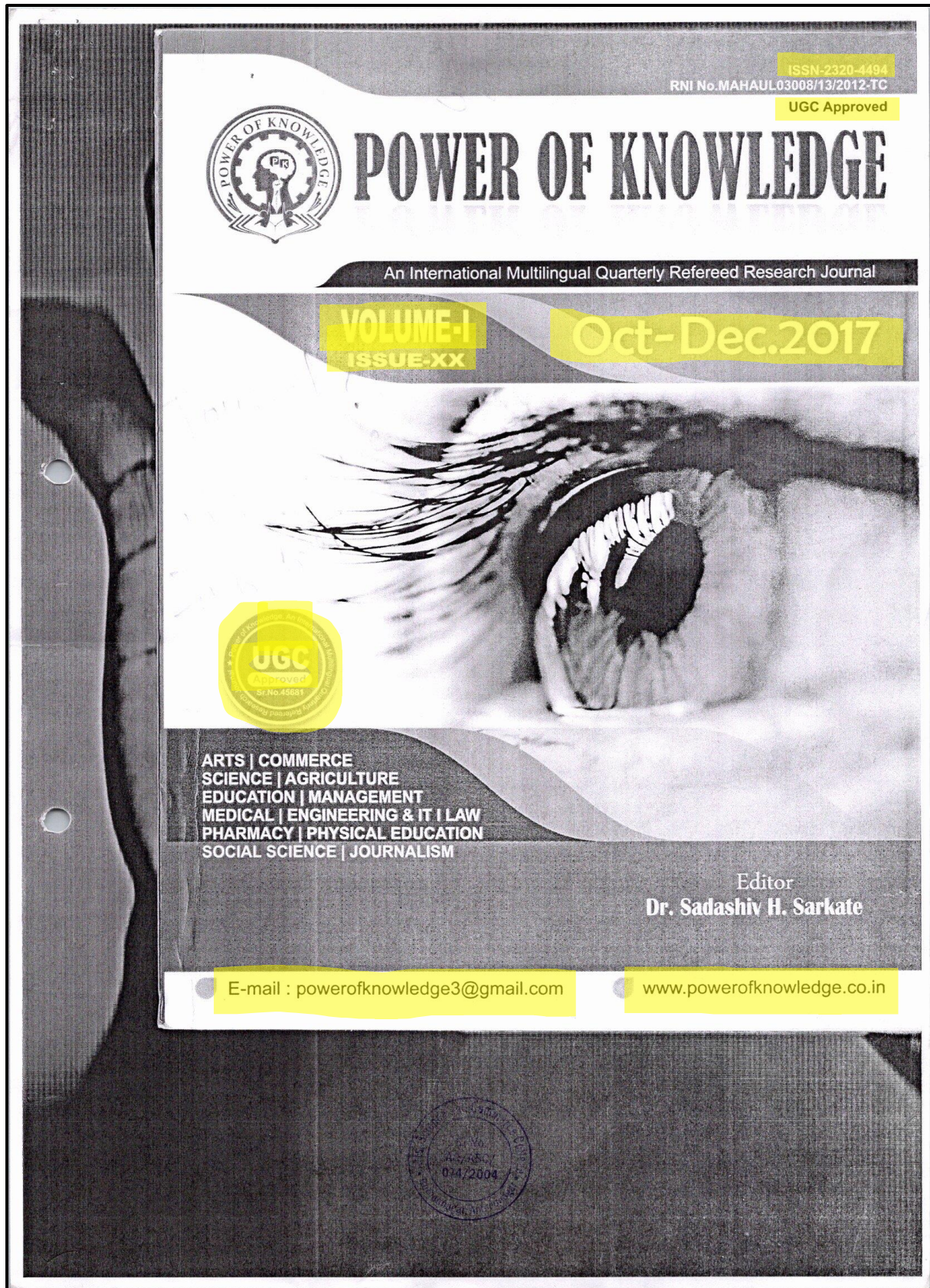
Fig. 1: Class wise Percentage contribution of Algal of Sugarcane field soil.

References

1. AUTI, B. K. AND PINGLE, S. D. (2006) Nostocales from circle of Ahmednagar district (M.S.) *Indian Hydrobiology*, 9(2):147-150.
2. AUTI, B. K. AND PINGLE S. D. (2007) The Myxophyceae of the Arable lands from Ahmednagar district (M.S.) *Ad. Plant Sci.*, 20(2):387-389.
3. BONGALE, U. D. (1985) Systematic account of diatoms from the cultivated soils of Karnataka state, India *Phykos*, 24:18-26.
4. BONGALE, U. D. AND BHARATI, S.G. (1980) on the algal flora of cultivated soils of Karnataka state, India. *Phykos*, 19(1):95-109.
5. JADHAV, MILIND (2010) Algal diversity of Sorghum field. *The Biosphere*, 2(1):89-90.
6. KOLTE, S.O. AND GOYAL, S. A. (1985) Distributional pattern of blue green algae in rice field soils of Vidarabha region of Maharashtra state. *Phykos*, 19(1):95-109.
7. KOTTAWAR, S. T. AND PACHPANDE, P. R. (1986) Additions to the soil algae of Banana fields of Jalgaon district (Maharashtra). *Indian Bot. Reporter*.5 (2):130-133.
8. METTING, B. (1981) The Systematics and Ecology of soil algae. *Bot. Rev.*,47(2):196-312.
9. NAYAK, S. R., PRASANNA, T. DOMINIC AND P. SINGH (2001) Floristic abundance of releative distribution of different Cyanobacterial genera in rice field at different crop grow stages. *Phykos*, 40:15-22.
10. NIMBHORE, B. S. AND JADHAV, M. J. (2014) Algal flor of Brinjal field soil of Aurangabad. *Bioscience discovery*, 5(1):42-44.
11. NIMBHORE, B. S. AND JADHAV, M. J. (2014) Soil algal flora of wheat field. *Journal of Science Information*, 5(1):31-36.
12. PATIL, S. R. AND CHAUGULE, B. B. (2004) Species diversity in paddey field, blue-green algae of the Western Maharashtra. *Abstract Nat. Symp. Bist and Biodiversity of the fresh water algae*.CAS, University of Madras: 30.
13. PRASAD, V. (2005) Algal and Cyanobacterial distribution in the wheat fields of Bara, Parsa and Rauth at Nepal. *Int. J. Meldel.*, 22(3-4):77-78.



POWER OF KNOWLEDGE



POWER OF KNOWLEDGE

Power of Knowledge UGC Approved Journal Volume : I Issue XX Oct to Dec 2017 ISSN 2320-4494

RNI No. MAHAUL03008/13/1/2012-TC

POWER OF KNOWLEDGE

An International Multilingual Quarterly Refereed Research Journal

UGC Approved Journal

Editor

Dr. Sadashiv H. Sarkate

● Mailing Address ●

Dr. Sadashiv H. Sarkate

Editor POWER OF KNOWLEDGE

Head of Dept. Marathi

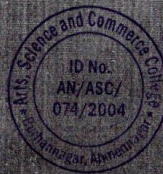
Art's & Science College, Shivajinagar, Gadhi, Tq. Georai Dist. Beed-431 143 (M.S.)

Cell. No. 9420029115 / 7875827115

Email : powerofknowledge3@gmail.com /
shsarkate@gmail.com

Price : Rs. 300/-

Annual Subscription: Rs. 2000/-



POWER OF KNOWLEDGE

Power of Knowledge UGC Approved Journal Volume : I Issue XX Oct to Dec 2017 ISSN 2320- 4494

अनुक्रमणिका

अ. क्र.	प्रकरण	संशोधक	पृष्ठ क्र.
१	INFLUENCE OF GOOD AND SERVICES TAX (GST) ON INDIAN ECONOMY	Dr. Gangadhar R. Bhuktar	१
२	DIGITAL INDIA: DIGITALIZATION	Mohamad Mustafa A. Mujawar Dr. Chandrashekar C. Banasode	१०
३	CHANGING ECOLOGICAL SCENARIO OF LONAR CRATER LAKE, BULDHANA, DISTRICT OF MAHARASHTRA.	Dr. Atul M. JETHE	१५
४	Supply Chain Management and Global Distribution	Dr. D. R. Panzade	२२
५	श्रीमहात्मगान्धिचरितम् महाकाव्यातील ऋतुवर्णन	अश्विनी म. जोशी अनिरुध्द अ. मंडलिक	२५
६	गौरी देशपांडे यांच्या कथांमधील स्त्री	प्रा. डॉ. शकुंतला एम. भारवे	३१
७	संत साहित्य, महानुभव साहित्य व दलित साहित्य चळवळ यांचा परस्परसंबंध	प्रा. रार्माकशन दाहफळे	३५
८	लोकवाङ्मयातील स्त्री गीतांचे वेगळेपण	प्रा. डॉ. हनुमंत तुकाराम माने	३८
९	संत चोखामेळा-एक चिंतन	डॉ. मेधा गोसावी	४३
१०	पद्मविभूषण गोंविंदभाई श्राफ यांच्या जिवन व कार्याचे अभ्यास	श्री. दिपक दिनकर नागरे	४६
११	रामदास बयाजी दळवी पाटील यांचे छत्रपती संभाजी गीता म्हणजे शब्दांचा रत्नहार	प्रा. डॉ. विजय पाटील	४९
१२	महावीर गांधी यांचे हिरव्या डहाळ्या करवंदी आभाळ या ललित संग्रहातील निसर्ग सौंदर्य व ग्रामीण जीवन.	प्रा. डॉ. र. तु. देशमुख	५२
१३	हेदराबाद संस्थानातील शैक्षणिक स्थितीचे अवलोकन	श्री. दिपक दिनकर नागरे	५४
१४	इ.स. १९८० नंतरची दलित	प्रा. डॉ. गिते लक्ष्मण बलभीम	५७
१५	साहित्यानिर्मितीस सांस्कृतिक व सामाजिक मुल्यांचे योगदान	प्रा. क्षीरसागर प्रशांत बत्रुवान	६०
१६	जी.ए. कुलकर्णी यांच्या कथेतील 'रत्न' प्रतिमा	डॉ. एम.ए. कव्हेळे	६३
१७	यू.म. पठाण यांचे ललित साहित्यातील अनुभवावश्व	प्रा. रामलीला सुदामराव पवार	६७
१८	ग्रामीण कादंबरीतून घडणारे राजकारणी व्यक्तींचे दर्शन	दया जेटे	७२
१९	जागतिकीकरणचा मराठी भाषेवरील परिणाम: एक अभ्यास	प्रा. डॉ. गिते लक्ष्मण बलभीम	७५
२०	मानवतेचे मंगलमय स्वप्न पाहणारे काव्य : 'नागफणा आणि सूर्य'	डॉ. विद्या प्र. जाधव	७७
२१	साहित्याची सामाजिकता	डॉ. राजाराम अ. झोडगे	८१



POWER OF KNOWLEDGE

4494

Power of Knowledge UGC Approved Journal Volume : I Issue XX Oct to Dec 2017 ISSN 2320-4494

२२	बीड जिल्ह्यातील डाळीव फलोत्पादन शेतीचा भौगोलिक अभ्यास	प्रा. श्रीमती एम.एस. टेकाडे प्रा. डॉ. मधुकर गणपतराव राजपंगे	८५
२३	डॉ. बाबासाहेब आंबेडकर आणि संसदीय लोकशाही	प्रा. डॉ. नरवाडे भाऊराव माधवराव	८९
२४	मराठी निर्मितीचा पुनर्विचार : एक अभ्यास	प्रा.डॉ.सर्दारशिव सरकटे	९२
२५	अहमदनगरच्या ईतहासात ज्ञानोदय नियतकालिकाचे योगदान	सुरेखा दिनेश गांगुडे	९६
२६	महाराष्ट्र राज्याच्या भांडवली खर्चाच्या प्रवृत्तीचे विश्लेषण	डॉ. संजय तळतकर	९९
२७	योगाद्वारा वृध्दावस्थेत निरोगी राहण्याचा मंत्र	डॉ. लीला धनसोडे	१०३
२८	माळवा प्रांतातील मराठेकालीन प्रशासन व्यवस्था	डॉ.सुराजिकुमार शंकरराव सरवदे	१०५
२९	मनु भंडारी कृत आपका बंटी : अभिव्यंजना शिल्प	प्रा.डॉ.सुलक्षणा जाधव संज्योती जगन्नाथ रोठे	१०८
३०	इविकसवी सदी की हिंदी कविताओं में व्यक्त नारी चित्र	प्रा.डॉ.द्वारका गिते-मुंडे	१११
३१	स्त्री विमर्श हिंदी साहित्य में नारी जीवन	प्रा. डॉ. न.पु. काळे	११४
३२	दलित जीवन की व्यथा और मुक्तिपर्व	प्रा.डॉ.पवन नागनाथराव एमकर	११७
३३	संतसाहित्यातून प्रकट झालेले पर्यावरण विषयक दृष्टिकोन	प्रा.प्रधान रामकृष्ण ज्योतिबा	१२०
३४	आदिवासींची सांस्कृतिक पार्श्वभूमी	प्रा. डॉ. जगतवाड एस. पी.	१२४
३५	Exchange Rate and Foreign Trade of India : An Analysis of the Causal Relationship (१९९०-९१ to २०१०-११)	Dr. Maroti V. Tegampure	१२६
३६	सत्यशोधकीय विचाराच्या प्रसार प्रचारात कादंबरीचे योगदान	डॉ.सौ.जयदेवी पवार	१३०
३७	सत्य और असत्य और लड़ाई नाटक	प्रा.विरदार उमाकांत अनेप्पा	१३४
३८	अहिल्याबाई होळकरांनी भिल्ल आदिवासी जमातीसाठी केलेले प्रशासकीय कार्य	संजय ए.स. गायकवाड	१३६
३९	देवनागरी लिपी का स्वरूप एवं महत्त्व	डॉ. मीना खरात	१३९
४०	मराठी नाटकाची आरंभिक स्थिती	डॉ. गजानन पां. जाधव	१४१
४१	तुळाजी आंग्रे आणि बाळाजी बाजीराव संबंध	प्रा. डॉ. एम. जी. मोरे	१४४
४२	नॉटा बंदीने काय साधले	प्रा. डॉ. भगवान सांगळे	१४६
४३	Re-engineering in Academic College Library	Dilip Bhangwan Doifode	१५०
४४	भीष्म साहनी के उपन्यासों में स्त्री मुक्ति	संजय एस. गायकवाड	१५३
४५	संत कबीर के विशेष संदर्भ में संत साहित्य और जीवन मूल्य	डॉ.सुभाष पवार	१५६
४६	माक्सवादी चिंतन - स्वरूप एवं उसका साहित्य पर प्रभाव	संजय एस. गायकवाड	१६०

Shri Baneshwar Shikshan Sanstha's, Arts, Science and Commerce College, Burhanagar

Page 82 of 91

POWER OF KNOWLEDGE

Power of Knowledge UGC Approved Journal Volume : I Issue XX Oct to Dec 2017 ISSN 2320- 4494

अहिल्याबाई होळकरांनी भिल्ल आदीवासी जमातीसाठी केलेले

प्रशासकीय कार्य

सोनवणे सुजाता रामदास

टिळक महाराष्ट्र विद्यापीठ, पुण

प्रस्तावना :-

प्राचीन काळापासून ते आधुनिक काळापर्यंत भारतीय इतिहासात अनेक कर्तव्यगार स्त्रियांनी आपली कारकीर्द स्वकर्तृत्वाने गाजविली आहे. मध्ययुगीन कालखंडातही अनेक स्त्रियांचे कर्तृत्व व कामगिरी त्यांच्या कालखंडाला प्रभावित करणारी ठरली. मराठा कालखंडात जिजाबाई, गोपिकाबाई, उमाबाई, येसूबाई, ताराबाई अशा कर्तव्यगार स्त्रिया होऊन गेल्या. याच कालखंडात अहिल्याबाई होळकरांसारख्या आपल्या कर्तव्यगारीने अजरामर ठरलेल्या राज्यकर्त्या होऊन गेल्या.

अहिल्याबाईंच्या कालखंडाचे इ.स. १७५४-१७६६ पूर्वार्ध आणि इ.स. १७६६-१७९५ असे दोन भाग पडतात पहिल्या कालखंडात सर्व कारभार मल्हाररावांच्या आज्ञेने चालत होता. पण मल्हाररावांच्या मृत्युनंतर सर्व सत्ता अहिल्याबाईंच्या हाती केंद्रित झाली. स्वतःच्या जीवनात अहिल्याबाईंनी २३ आप्तस्वकीयांचे मृत्यु पाहिले. दुःखे व संकटेही सर्व शक्तीनिशी साहसाने व बाणदारपणाने तोंड दिले. कर्मयोग आचरून कर्तव्यकठोर मुत्सद्दी, प्रजावत्सल, प्रशासक असा महान आदर्शसमाजापुढे ठेवला. समाजातील प्रत्येक घटकामध्ये परिवर्तन घडवून आणले. कोणत्याही घटकाकडे दुर्लक्ष केले नाही. दुर्लक्षित घटकाला समाजामध्ये समावून घेतले व समतेचे तत्त्व प्रस्थापित केले.

अहिल्याबाई होळकरांनी भिल्ल आदिवासी जमातीसाठी केलेले प्रशासकीय कार्य :-

होळकर राज्यांच्या सीमा विंध्य व सातपुड्याच्या दुर्गम पहाडीमध्ये विस्तारल्या होत्या. त्यातील निमाड प्रदेश घनदाट वृक्षराजीने व्यापला होता. ह्या पहाडी भागामध्ये भिल्ल, भिल्लाले, गोंड तथा कोरक जातीचे आदिवासी राहत होते. त्यांची उपजिविका ही अधिकतर लूटपाट, चोरी, दरोडा ह्यांच्यावर अवलंबून होती. त्यामुळे निमाड हा भाग नेहमी असुरक्षित समजला जायचा. इंग्रजांच्या काळात म्हणजे २० व्या शतकाच्या सुरुवातीला सुद्धा हे क्षेत्र असुरक्षित समजले जात. अशा प्रकारे अशा असुरक्षित क्षेत्रामध्ये शांती व सुव्यवस्था प्रस्थापित करू जनजीवन सुखद सामान्य करण्यासाठी अहिल्याबाईंनी जी प्रशासकीय व्यवस्था केली ती व्यवस्था अभूतपूर्व होती. हे जॉन मालकमसारखे इंग्रज देखील मान्य करतात. आणि ते अहिल्याबाईंचे हे कार्य त्यांच्या प्रशासन कौशल्याचे अंग मानतात. अहिल्याबाईंनी भिल्लांसाठी कशा पध्दतीने प्रशासकीय कार्य किंवा अवस्था केली हे पुढीलप्रमाणे सांगता येईल.

ज्या वेळेपासून निमाडचे क्षेत्र पेशव्यांच्या अधिपत्याखाली आले तेव्हापासून निमाडच्या संधवा तथा नागलवाडी हा भाग होळकरांच्या अधिपत्याखाली होता. मध्यंतरी येथील अव्यवस्थेच्या कारणास्तव १७६८ मध्ये पेशव्यांनी हा भाग पुन्हा आपल्या ताब्यात घेतला परंतु १७६९ मध्ये पेशव्यांनी पुन्हा संधवा तथा नागलवाडी हा निमाडमधील भागाचा ताबा अहिल्याबाईंजवळ दिला. इ.स. १७७८ मध्ये पूर्ण निमाड क्षेत्र होळकर, शिंदे आणि धारचेपवार ह्या मराठा सरदारांच्या ताब्यात आले. अहिल्याबाईंच्या काळात प्रवास हा शक्यतो पायवाट, बैलगाड्याच्या रस्त्याने केला जायचा. त्याकाळी नर्मदेच्या दक्षिण आणि उत्तर या दोन्ही किनाऱ्यावर पसरलेल्या निमाडच्या भिल्लांच्या पहाडी भागामध्ये प्रवास पूर्णतः असुरक्षित होता. मार्गामध्ये लूटपाट, चोरी, दरोडा, खूनहयांचे सदैव भय होते. एकटेदुकटे प्रवास करणे शक्यच नव्हते तर शंभर-दीडशे लोकसमुहाला सुद्धा ह्या भागातून प्रवास करणे धोकादायक होते.

अहिल्याबाईंच्या ताब्यात हा भाग येण्यापूर्वी पेशव्यांनी रामचंद्र बल्लाळ, भुस्कुटे यांच्याकडे निमाडचे दायित्व सोपविले. आणि घसर मण्डलोईड ही पदवी बहाल केली आणि त्या भागात शांतता, सुव्यवस्था प्रस्थापित करणे, तेथे वसाहत

136



POWER OF KNOWLEDGE

20- 4494

Power of Knowledge UGC Approved Journal Volume : I Issue XX Oct to Dec 2017 ISSN 2320- 4494

मदसा

पीठ, पुण

कृत्याने

पी.मराठा

त्याबाई

मडतात

बाईच्या

माहस

जापुढ

काला

प्रदेश

त्यांची

मजला

अशा

सकीय

ईचे हे

वस्था

डी हा

पुन

गवाई

ने.

आणि

मध्ये

राहया

वित्त

माहत

तयार करून शेतीला प्रोत्साहन देणे हे कार्य सोपविण्यात आले. पण भुस्कुटेनी सुव्यवस्था प्रस्थापित करण्यासाठी बलाचा वापर करण्याचा प्रयोगसुरू केला. त्याने अनेक भिल्लांना पकडले आणि चांगले वागण्याची जमानत घेऊन त्यांच्या गळ्यात पट्टे बांधून राहण्याची परवानगी दिली. जो चांगले वागण्याची जमानत देणार नाही, गळ्यात पट्टे बांधून हिंडणार नाही आणि लुटमार, खून, खराबी करायचा धंदा बंद करणार नाही अशांचा निमाडमधील खरगोनच्या चबुत-यावर फरशीने शिरच्छेद केला जायचा.

इ.स.१७८८ मध्ये निमाडमधील आदीभाग भाग अहिल्याबाईच्या राज्यकारभारा अंतर्गत आला तेव्हा अहिल्याबाईंनी भिल्लांच्या प्रशासकीय व्यवस्थेचे कार्य आपल्या हाती घेतले.

संवेदनशीलपणे भिल्लांच्या मूळ समस्यांचा शोध घेतला. त्यांच्याबाबत आधीच्या क्रूर, कठोर नीतीचा वापर टाळला. हया नीतीबाबत सर जॉन मालकम म्हणतो, चर्मदा के किनारे लुटपाट करणेवाले गोंड लोकांस तया पहाडोंमें रहने वाले भीलों के बारे में अहिल्याबाईने जो व्यवस्थात्मक प्रबंध किया वह उतना हीसुखद था, जितने कि उसके अन्य व्यवस्थात्मक प्रबंध रहे । यद्यपि वह पूरीतीरसे यशस्वी नहीं रहा । अयशस्विता के कारण अहिल्याबाई के सत्त्व एवं दूरदर्शिता के बाहर कतई भिन्न बातों में देखे जा सकतेहै ।

अहिल्याबाईंच्या राज्यकारभारातील अत्यंत महत्त्वाची गोष्ट म्हटली म्हणजे भिल्ल, गोंड, रामोशी इ.ज्या गुन्हेगार प्रवृत्तीच्या जातीहोत्या त्यांचा त्यांनी केलेला योग्य बंदोबस्त होय. त्याकाळी या लोकांनी धुमाकूळ उडवून दिलाहोता. त्यांच्यापासून प्रजेस मोठा त्रास होत असे. या लोकांचा चोरीचा धंदा पिढीजातहोता. हा धंदाते उघडपणेच मोठ्या संभ्रवितपणे करीत, धाडा टाकणे, मारामारी करणे इ. कामेते लोक आपले आद्य कर्तव्यच समजत. त्यापैकी कोणी म्हणत की, मी महादेवाचा चोर आहे, पृथ्वीवर लोक फार झाले, त्यांचा संहार करावा, अशी आम्हास देवाची आज्ञा झाली आहे.

एकंदरीत दरोडा घालणे हे त्यांच्या धर्मकृत्यांतले एक कलमचहोतुन गेलेहोते. अशा लोकांपासून आपल्या प्रजेचीसुटका करणे किंवा त्यांना सुरक्षितता प्रदान करणे हे मोठे आव्हान अहिल्याबाईसमोर होते. पण त्यांनी त्यांच्या शीदंडली न करता तथापि त्यास शिक्षा न देता दया व सामोपचार याची योजना करून त्यांना मुळ समाजात आणण्याचा प्रयत्न केला. अहिल्याबाईंनी सर्वप्रथम त्यांच्या उपजिविकेची साधने उपलब्ध करून देण्यावर आपले लक्ष केंद्रीत केले. त्यांना लुटमारीपासून परावृत्त करण्याच्या दृष्टिकोनातून त्यांनी निर्णय घेण्यास सुरवात केली. त्यांस लुटालुट करून निर्वाह करण्यापेक्षा दुसरे चांगले धंदे करण्याविषयी ताकीद दिली व त्यांच्या पूर्वापार चालत आलेल्या वहिवाटीचा विचार करून डोंगरातून जो माल जात-येत असे त्यावर अगदी थोडा कर घेण्याविषयी त्यास परवानगी दिली या करीस भीलकवडी असे म्हणत. व तो मालाने लादलेल्या प्रत्येक बैलामागे सुमारे अर्धा पैसा इतका असे. याशिवाय अहिल्याबाईंनी भिल्लांच्या संदर्भात आपल्या अधिकाऱ्यांना हुकूम दिला की प्रमुख भिल्लांच्या टोळ्यांची संख्या काढून त्या टोळ्यातीलसगळ्यासदस्यांना उदरनिर्वाहाच्या दृष्टिकोनातून खाजगी जाहागिरी मधून मदत दयावी. फक्तहुकूम देऊन अहिल्याबाई थांबल्या नाहीतर काही भिल्लांना घाटाची रखवाली करण्यासाठीनियुक्त केले. त्यांचे मासिक वेतन निर्धारित केले. भिल्ल आणि त्यांच्या बायका हयांचे गट करून त्यांच्याद्वारे यात्रेकरूंनासुरक्षा प्रदान केली. त्यांना पगार राज्यांद्वारे दिला जाऊ लागला. त्या रानटी लोकांस अहिल्याबाईंनी काही पिडीत जमिनी इनामादाखल देऊन त्याबद्दल त्यांच्या पासून रस्ते सांभाळण्याचा व त्यांच्या हद्दीत काही माल चोरीस गेल्यास त्याचा पत्ता लावून देण्याचा करार करून घेतला.

ज्या भिल्लांमध्ये परिवर्तन झाले नाही. अशा गुन्हेगार भिल्लांच्या केवळ नाइलाज म्हणून वध केला. त्या लुटारूमध्ये मनरूपसिंग नावाचा नर्मदेच्या किनाऱ्यावर लुटमार करणारा लुटारू सुध्दा होता. या संदर्भात मालक म्हणतो, मनरूपसिंग या चोरट्यासरदाराच्या वंशजाचा दंगा मोडावयास मला साहाय्य करिताना व मला साहाय्य करिताना झाला. त्यामुळे अहिल्याबाईसारख्या शांत माणसासही आपली शांती कशी सोडावी लागलीहे माझ्या फारच चांगले नितीने साक्षात आले.



POWER OF KNOWLEDGE

Power of Knowledge UGC Approved Journal Volume : I Issue XX Oct to Dec 2017 ISSN 2320- 4494

अहिल्याबाईंनी जी व्यवस्था पहाडी इलाख्यातील भिल्लांच्या संदर्भात केली तीच व्यवस्था लुटमार करणाऱ्या गिरासियाच्या बाबतीत सुध्दा केली.

होळकर राज्याचे कारभारी तात्या ओग म्हणतात, अहिल्याबाईंनी त्यांच्या काळात उदारता, भलाई, संतुष्टकारी उपायांनी त्यांच्याबरोबर मधुर संबंध प्रस्थापित केलेले होते.

निष्कर्ष :-

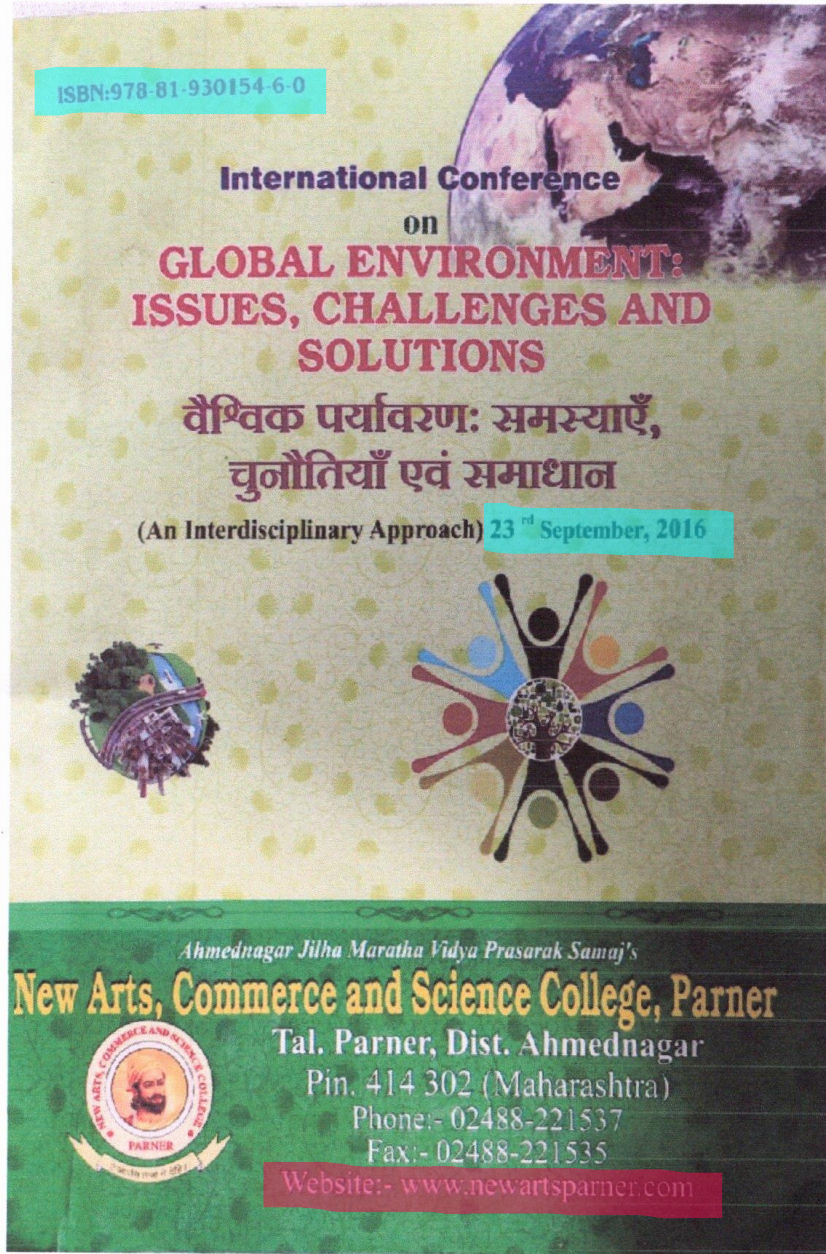
- १) सामाजिक विषमतेचे बळी ठरलेले भिल्ल यांना योग्य न्याय दिला.
- २) अहिल्याबाईंनी आपल्या प्रशासकीय कौशल्याचा वापर करून अशक्य गोष्ट शक्य करून दाखविली.
- ३) समतेचे तत्त्व प्रस्थापित केले.
- ४) भिल्लांना समाजाच्या मूळ प्रवाहात आणले.
- ५) राज्यात शांतता, सुव्यवस्था प्रस्थापित केली.

संदर्भ सूची :-

- १) अहिल्या स्मारिका १९७३-१९७४, १९७५
- २) सुमती लेले, अहिल्याराणीहोळकर, पृ. २७,२८
- ३) गजानन चिंतामण, श्रीमंत अहिल्याबाई होळकर
- ४) वासुदेव वामन शास्त्री खरे, ऐतिहासिक लेखसंग्रह, जिल्हा ७, पृ. ३७६०
- ५) हरिभादु कोळेकर, लोकमाता पुण्यश्लोक अहिल्या देवी होळकर, सोलापूर, पृ. ८१
- ६) हिरालाल शर्मा, अहिल्याबाई, नयी दिल्ली १९८९, पृ. ८४
- ७) लोकराज्य, पृ. १६,१९९४, पुण्यश्लोक अहिल्याबाई विशेषांक



GLOBAL ENVIRONMENT: ISSUES, CHALLENGES AND SOLUTIONS



GLOBAL ENVIRONMENT: ISSUES, CHALLENGES AND SOLUTIONS


International Conference on, "Global Environment: Issues, Challenges and Solutions" ..1..

**INTERNATIONAL CONFERENCE
ON
GLOBAL ENVIRONMENT: ISSUES,
CHALLENGES AND SOLUTIONS**

SEPTEMBER, 23, 2016


Director: Prin. Dr. Rangnath Aher
Chairman: Dr. Tukaram Thopate
Convener: Dr. Vijaykumar Raut
Co-ordinator: Dr. Vaishali Bhalsing
Organizing Secretary: Prof. Deepak Sontakke

Organized by

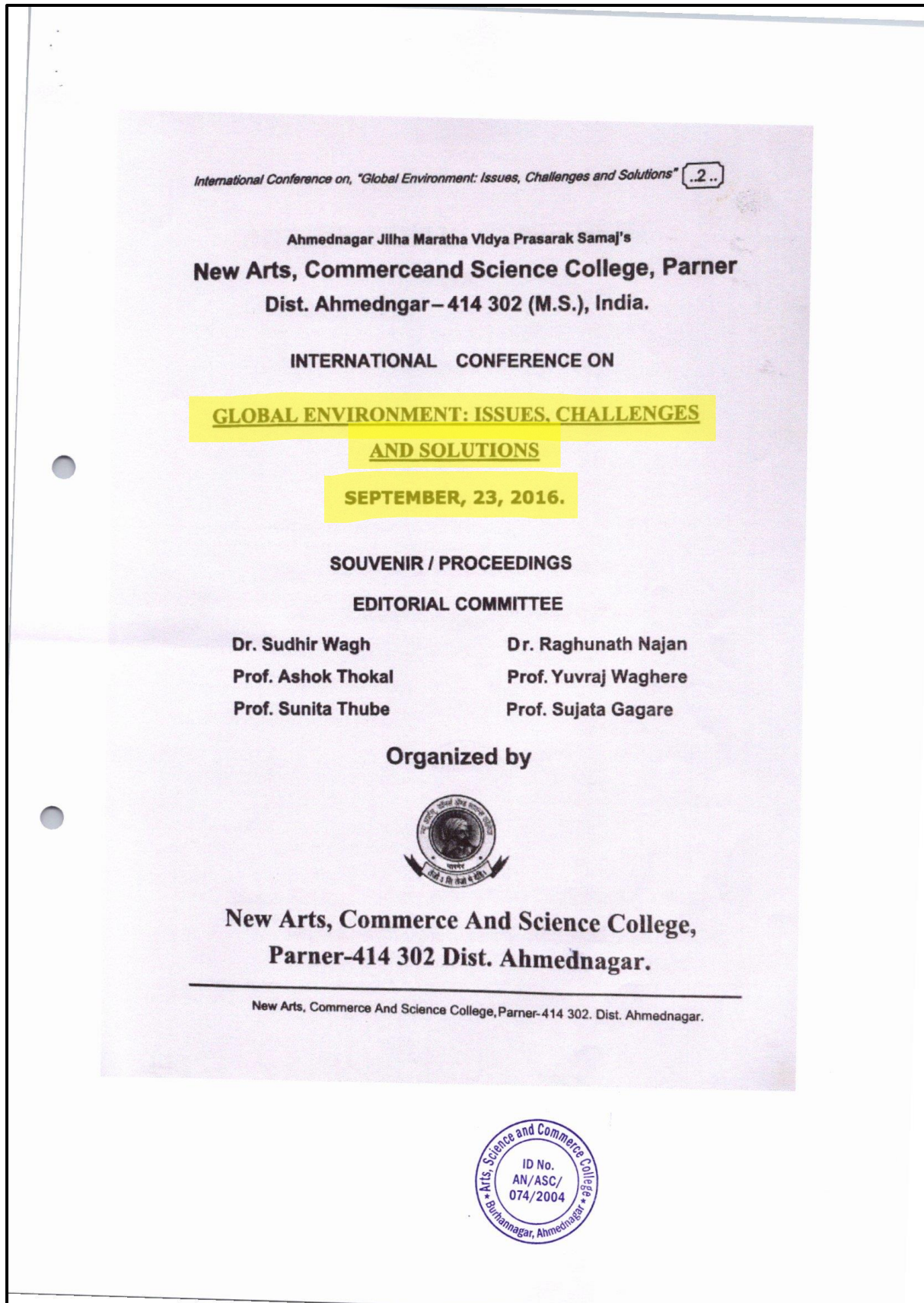


**New Arts, Commerce And Science College,
Parner-414 302. Dist. Ahmednagar.**

New Arts, Commerce And Science College, Parner-414 302. Dist. Ahmednagar.



GLOBAL ENVIRONMENT: ISSUES, CHALLENGES AND SOLUTIONS



GLOBAL ENVIRONMENT: ISSUES, CHALLENGES AND SOLUTIONS

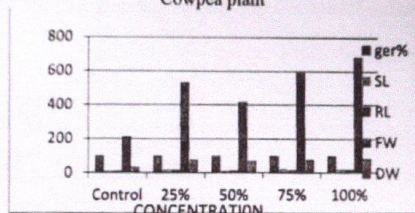
GLOBAL ENVIRONMENT:ISSUES, CHALLENGES AND SOLUTIONS ISBN:978-81-930154-6-0

Fig1. Cowpea var. Sweta seed germination and seedling growth
Table. I -Effect of *Jatropha curcus* L. root extract on the seed germination and Seedling growth of Cowpea plant

SR.NO	Treatment	Germination%	Shoot length[cm]	Root length[cm]	Fresh weight[mg]	Dry weight[mg]
1	Control	100	10	10.5	212	35
2	25%	100	19.5	17	534	76
3	50%	100	12.4	14	419	70
4	75%	100	23	15.3	593	78
5	100%	100	22	19	686	84
6	Mean	100	17.38	15.16	488.8	68.6
7	SD	0	5.84	3.2	182.5	19.4
8	SE	0	2.62	1.43	81.85	8.71

Significant at 5%

Figure. I- Effect of *Jatropha curcus* L. root extract on the seed germination and Seedling growth of Cowpea plant



*Ger%-Germination Percentages, SL- shoot length, RL-Root Length, FW-Fresh weight, DW-Dry weight.

REFERENCES

- 1) An, M. Pratley, J.E. and Haig, T. (1998). Allelopathy: From Concept to Reality. "Agronomy, growing a greener future?" (Eds) by D.L. Michalk and J.E Pratley. Proceedings of the 9th Australian Agronomy Conference, 20-23 July 1998, Charles Sturt University, Wagga Wagga, NSW.
- 2) Deokule S.S.(1985). Allelopathy in some medicinal plants inhibition germination & seedling growth of certain weeds and agriculture crops of Baramati in Pune Districts 1Biol.Indi.6 (1&2):5-10
- 3) Dhumal K.N and Bhalerao E. B. (2004). Allelopathic potential of Fern frond extracts for sustainable improvement of grain yield and quality of sorghum. IVth Intl. Conf. Allelopathy in sustainable terrestrial and aquatic ecosystems Pp.84.
- 4) Einhellig, F.A. (1987). The Physiology of Allelochemical Action: Clues and Views. In:Allelopathy from Molecules to Ecosystems, Reigosa, M.J. and N. Pedrol (Eds.) Sci -ence Publi., Enfield, New Hampshire.

PROBLEM OF WATER POLLUTION RELATED WITH ENVIRONMENT

Dr. Jadhav Vijay Machindra, Dept. Of Sociology, Shri Baneshwar Art's Com. & Sci. College, Burhannagar, Ahmednagar

Introduction :-

What is environmental pollution?

Environmental pollution is the undesired spread of toxic chemicals into the aquatic and terrestrial habitats of the world. There are many different types of pollution, usually named for the location that has become polluted. For example, if oil is dumped into a local creek, it is said to be an example of water pollution. Water, air and land pollution are three of the most common types of pollution. However, pollution often affects multiple systems. For example, if chemicals are burned in a factory,



GLOBAL ENVIRONMENT: ISSUES, CHALLENGES AND SOLUTIONS

GLOBAL ENVIRONMENT:ISSUES, CHALLENGES AND SOLUTIONS ISBN:978-81-930154-6-0

as well'. Of primary concern are the effects of the petroleum industry's activities on the environment and public health, a secondary concern that often fails to be recognized is the potential effect on our food supply through water and feed contamination resulting in chemical residues to be present in animal protein and milk. Additionally, topical exposures can affect other animal products such as hide and wool products.

Reviewing the literature

Case report 1 :-In a study of the impacts of gas drilling on human and animal health, Bamberger and Oswald (2012) interviewed animal owners and their veterinarians in six different states who had reportedly been affected by accidental exposures to either conventional wells (shallow or deep vertical wells) or fracking wells (horizontal wells). They investigated 24 separate cases involving both human and animal exposures to these operations. The two most notable food animal exposures involved a case where 17 cows died with one hour post exposure, and where 70 cows died after exposure.

Case report 2 :-The Applicant, Shri Sant Dasganu Maharaj Shetkari Sangh Akolner, Taluka : Nagar, Distt : Ahmednagar. The present Application is filed by the Applicant alleging Ground water Pollution caused by leakages of petroleum storage tank sand pipe lines installed by the M/s. Indian Oil Company Ltd., and Bharat Petroleum Corporation Ltd. Both these are Government of India Companies.

For storage of petroleum products M/s. Indian Oil Company Ltd., and Bharat Petroleum Corporation Ltd. have installed total 14 storage tanks which are situated at not more than 100 ft. of distance from the residential locality. one of the Member namely Babu Tabaji Gaikwad found that his well is contaminated with petrol, diesel and oil mixed in it, due to seepage from the storage tank facilities by companies. The situation got more aggravated in 2012 when the water in his well was mixed with about 50 per cent of petroleum products and hence, the Applicant submits that they were not able to use this well for drinking as well as agricultural purpose and on inquiry, they came to know that most of the wells in surrounding area are also contaminated with petroleum seepages. The 24 members made complaints to the Companies and also to the Government authorities for immediate action. However, no effective and corrective measures have been enforced by the Government nor any corrective steps were taken by Companies.

The Collector, confirming the Ground water Pollution due to discharge and mixing of petroleum products and even raising an alarm that if such seepage from Companies is continued, the entire ground water source of that area will be contaminated. Even recommended that it is necessary to take help of expert agencies like Maharashtra Engineering Research Institute, Nashik for control of pollution.

"Generation and Application of Digital Elevation Model (DEM) for Darna Lake Catchment using ArcGIS"

Prof. Jyoti A. Pathare¹ & Dr. Anilkumar R. Pathare² ^{1&2} Assistant Professor,
Department of Geography, HPT Arts and RYK Science College, Nashik-422005.

Introduction-

Digital elevation model (DEM) is useful for many analyses such as topographic feature extraction, Runoff analysis, river watershed management and so on. Delineation of terrain parameters, such as slope, drainage network, watershed boundaries etc., These parameters are often required in preparation of development and conservation plan for natural resources, infrastructure development and town planning, etc.

Current remote sensing and geographic information system technologies provide ways for rapid collection of field data and quick data processing. This study investigates and demonstrates the state of Remote sensing techniques for detailed study and assessment of application of DEM for Darna river lake catchment. This paper presents an example that explores the advantages of applying remote sensing technologies and GIS application generation of DEM for Darna lake catchment area. Specifically, we evaluated the watershed of a section of the Upper Darna River in Igatpuri. The study area consisted of



GLOBAL ENVIRONMENT: ISSUES, CHALLENGES AND SOLUTIONS

College Highlights

- Best College Award (2013-14) - Savitribai Phule Pune University, Pune
- Best College Award (2013-14) - Student Welfare Board (Savitribai Phule Pune University, Pune)
- Jagar Janivancha Award (2012-13, 2013-14) - Department of Higher Education, Govt. of Maharashtra
- Chetana Award (2013-14) - Student Welfare Board (Savitribai Phule Pune University, Pune)
- Parner Bhushan Puraskar (2008-09)
- Best Teacher Award (2010-11) - Pune University, Pune
- Parner Gaurav Puraskar (2013-14)
- Best Student Welfare Officer (2013-14) - Student Welfare Board (Pune University, Pune)
- Young Scientist Award (2004-05) Sri. Venkateshwara University, Trupati, (A.P.)
- Best Road Safety Award (2013-14) - Ministry of Higher Education, Govt. of Maharashtra
- Best Team Leader Award (2014-15) - Govt. of Maharashtra
- Best NSS Unit (2014-15)
- Best Programme Officer (2014-2015) - Dr. Wagh S. R.
- NCC Award (2014-2015)
- Chetana Award (2014-2015)
- A good research culture having research guides and also has one Patent in Chemistry by Dr. Thube D. R.
- Inter-disciplinary Research
- Good number of Minor and Major Research Projects by Hon. Principal funded by UGC and Savitribai Phule Pune University, Pune
- Good number of Publications through National and International Peer reviewed in renowned Journals

